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The Use of Drawn Combs in Sections.

BY W. Z. HUTCHINSON.

There is probably no topic in which the aparian world is more interested at present than in the one that I have used as the title for this article. We all know that, as usually managed, more extracted than comb honey can be produced—many say twice as much—but it is certain that much more can be produced. One reason for this, if not the main reason, is that in producing extracted honey no comb has to be built, that is, after a supply has been obtained. I doubt if anything is lost in the building of comb, that is, if the wax for comb-building is produced at a loss, under ordinary conditions, but the trouble is that so much time is consumed in comb-building, that a short, sharp, but very bountiful flow of honey may be practically lost if the bees are compelled to build combs in which to store it. In this connection, comb foundation is a great help, but it is not drawn comb, and cannot be such in much less than two days, and even ten days, in a short, abundant flow may mean a great deal. Drawn combs can be utilized at once.

To my mind, the main reason why more extracted than comb honey is produced, is because in the former case abundant storage-room of drawn comb is always furnished. If we could always have sections full of nice drawn combs, I see no reason why we could not produce exactly as much comb as extracted honey. Mr. Heddon says that more extracted honey can be produced by using shallow extracting supers, and then tiering them up so rapidly, as the flow advances, that the bees do not fully seal the honey. This plan also largely saves in the work of uncapping. There may be something in this, but I see no reason why supers of sections may be rapidly tiered up in the same manner during a rapid flow, and then the capping of the combs completed later, after the rush is over.

I have thus dwelt upon the advantages of drawn combs in a heavy honey-flow, but in some localities and seasons it is possible that there may be still greater advantages in using them to get the bees at work in the supers early in the season. With Italian bees and a slow, gradual opening of the main honey-flow, the bees are loth to begin work in the sections. They will crowd the brood-nest, lessening the amount of brood that is produced, and will begin work in the supers when they are actually forced into them; that is, if the sections contain nothing but foundation. Fill the sections with drawn combs, and how different the case. The bees begin to put honey into the sections as soon as any can be spared for that purpose. They seem to delight to begin work in the supers when they are thus supplied with drawn combs. Pressure upon the brood-nest is stopt, and more brood is the result. A super of sections having drawn combs will often be completed and ready to come off, and work commenced in a second super by the time that work will be simply commenced in a super containing foundation only. A super of drawn combs in the spring often means another super of finisht comb honey, and

the bees inclined to work in sections instead of swarming. This latter is a big point sometimes.

There are different ways of getting drawn combs in the sections. At the end of the season there are always more or less of unfinisht sections. There are two methods of dealing with those that are nearly finisht—that of "feeding back" extracted honey to secure their completion, and of selling them at a reasonable price in the local market. For most bee-keepers, the latter course is probably preferable. All sections that are not three-fourths completed better be emptied by setting supers of them over colonies that are lacking in stores, and then the dry, clean combs kept over for use the next spring. Any combs that are over one-half completed better be leveled with the comb-leveler before putting them on the hive. In those localities where there is a fall flow of dark honey that will bring only a low price, it can be used to the best advantage in drawing out foundation in sections to be used another year for storing white honey. In other localities it may be profitable to feed sugar in the fall, selecting for the work colonies that are lacking in stores, and thus have foundation drawn out in the sections for use the next season. This same work may be done in the spring, and thus not only get the combs drawn, but so fill the brood-nests that when the season's honey harvest finally opens, the honey must go into the sections because there is no other place in which to put it.

Some have reported excellent success in having foundation drawn out in full sheets, and then cutting it up and fitting it into the sections. This greatly increases the work, and I feel satisfied that if the use of drawn combs becomes general, it will be by having them drawn out directly in the sections.

I recently exprest my views regarding the new deep-cell foundation, with which The A. I. Root Co. is experimenting, and have only to add when such a man as E. R. Root says that the comb resulting from the use of this new foundation is as brittle and "eatable" as natural combs we can only wait—suspend our judgment until we can try it ourselves. If it should turn out that the use of this product does not debase the comb honey, and it can be produced in commercial quantities, at a low price, it is quite likely that it will solve the question of how drawn combs should be produced. In the meanwhile, we can go on getting drawn combs according to the plans that we know are successful.

Genesee Co., Mich.



A Visit to Switzerland and France.

BY GUSTAVE GROSS.

During my visit to Switzerland and France, the past winter, I seized every opportunity to inquire about the state of apiculture there. I saw a good many bee-keepers, visited several apiaries, and from all I saw I came to the conclusion that apiarists there are far behind us in their practice, which may in part be accounted for by the fact that they do not read bee-papers as we do here. Of course, there are exceptions, but it was not my lot to meet with such. Besides, the honey resources of the country are not nearly as good as ours. In Switzerland (the part I visited) they get their surplus mainly from the pines, and it is only a honey-dew, in color resembling our buckwheat honey, having a strong "piney" taste, though very sweet. The honey is mostly extracted, sections are high, \$7.00 per 1,000, while heavy comb foundation costs 50 cents per pound; but they told me it was very hard to get it pure, the most of it being mixt with paraffine.

When they produce honey it is in the old-fashioned straw

skep ; the cap, holding may be 15 pounds, being taken off when full and sold that way ; I saw it in all the stores, while honey in sections was very scarce.

The DeLayens hive is mostly used, being about square, with the frames either perpendicular to or parallel with the entrance. There was quite a diversity of opinions on this subject.

The bees are wintered out-doors in Switzerland, and generally come through all right, but they nearly always have to be fed in the spring.

Extracted honey sells for about the same price as the comb—from 24 to 28 cents per pound, according to the crop. In the south of France, near Bordeaux, they seem to get better crops than in Switzerland ; their surplus comes from black locust and basswood, and is gathered in May and June. Their spring is very early there ; on Feb. 15 I saw peach trees in bloom, the bees were bringing in pollen, and there was sealed brood in all the hives. The colonies get strong in time to swarm at the end of April, just before the locust bloom. They use a hive with 16 frames, about 16 inches square. As the most of them work for extracted honey, and do not use upper stories, they extract from the outside frames ; but what a work ! the frames have to be taken out from the side, for the top cannot be opened. I saw an apiary where the hives were put on top of each other, four high.

The bees there are mostly the common black bees ; I saw very few Italians. In the city of Bordeaux are many bees, but I was told that they were mostly affected with foul brood, a result, they thought, of robbing the sugar refineries. My brother, who has a large fruit-canning establishment, told me that in summer he lost from \$3 to \$4 a day by the bees (sugar is 12 cents a pound in France, there being a heavy tax on it). By the nature of his business he cannot get even with the bees, as they do in the sugar refinery that I visited, where the superintendent told me that they swept the bees together, put them in a bag, hung it on a peg, and by their own weight the sugar or syrup was squeezed out and then boiled again, so there was very little loss !

Honey is used very little in France, which may be due to its poor quality. In one of the stores they had quite a lot of section honey, but it was half capt, dark, and partly candied. I bought one section for which they charged me 30 cents ! I think if they would put up their honey in nice shape there would not be cases like that of a man I heard of, who had 600 pounds in his cellar, and could not sell it. When I left here, I took with me a 12-pound case of basswood comb honey, and how everybody admired it ! They said they had never seen such nice honey, not even in their expositions.

I had to give them a talk on apiculture in the United States, and afterwards repeat it to a large audience. I gave them one of the sections of honey to look at, and taste of, and most of them thought it was delicious, but a few found it too strong for their taste.

I had been explaining to them my way of hiving swarms with clift queens. The next day it was reported to me that one of my hearers was pitying me, thinking what a job I must have every spring to cut the wings off all my bees ! The joke was on me.

Jefferson Co., Ws.



Can We Dispense with the Handling of Frames?

BY G. M. DOOLITTLE.

In the struggle which apiarists are compelled to go through, in these times of low prices of honey, in order that they may live at their calling, or chosen pursuit, many "short cuts" are advocated and many plans put forth, which were never thought of when honey sold at paying figures. All know that the less work we do in the apiary, or the less work done with a single colony, helps toward making a given price for our honey, pays us more for the labor performed, other things being equal. But the question which confronts us is, Will we obtain as much honey from our bees, with little or no work expended on them, as we would if we gave them the same care we did in former years, when honey brought from double to treble the price it now does ? I know that there are many "short cuts" which we can take to advantage, but are not some of the short cuts advocated, very prolific in making "slipshod" bee-keepers ?

Some are advocating the handling of hives instead of frames as a means of cheapening the production of honey, claiming that any bee-keeper of average intelligence can learn to diagnose colonies with scarcely ever opening any hive, or even taking out a frame. Such advocacy has in it, in my opinion, the element of impressing the beginner that a careless style of bee-keeping will accomplish as good results as will one of push and energy, which is incorporated in the handling of frames. Bee-keepers of long experience can be trusted better

to guess at the inside conditions of a colony from the outside appearance of the same ; but I contend that, in order for any person to become an accomplished apiarist, he must, in his initiatory steps, become thoroughly acquainted with the inside workings of a colony of bees by actual inspection of the frames of brood, honey and combs. Handling hives, in the abstract, admits of no suitable knowledge of the inside workings of a colony equal to even a fair guess ; hence I claim that the ideas advanced by some have a tendency of carrying us back to the days of our fathers, when our beloved pursuit was pretty much shrouded in mystery. Just listen to the following which I found in one of our bee-papers :

"We have lost sight of the advantages of judging from outside appearances in our use of frames. If an experienced bee-keeper places his ear against the side of the hive, and raps or jars, he can tell by the sound, pretty well, the condition of the colony inside of the hive. During the early spring, in cold storms, when there are colonies in the apiary that are liable to starve, if the apiarists will go from hive to hive every day and place his ear on the side of the hive and rap, he can tell by the sound whether all are fed. If the response is weak, a little syrup given immediately will soon restore the strong, vigorous response to the rap," etc ; while much advocated by others savors of similar import. And all for what ? That we may do something out of the usual line and learn to think that no amount of work shall be considered too menial so long as the handling of frames can be avoided in this great strife in producing honey cheaply, so that apiarists can live by producing honey at the present, and fast becoming, deepest prices of the same.

Just think of such apiarists as Mr. Secor, Dr. Miller, or Dr. Mason, going out every day in slush and storms, getting down upon "all fours" in the mud and snow, placing their ears to the side of the wet and nasty hives, and rapping on the same to know whether any of the 101 colonies are going to starve, when once handling of the frames during the first flight of the bees in spring would place them where either would positively know that no colony need starve during the next six weeks to come !

Think of turning a hive bottom side up, and with smoke, driving the bees down among the combs, peering in as best we can, setting the hive back on the stand again, removing the covering from the top, smoking again, and looking down into hive that way, all for the sake of guessing what is inside, when once handling of the frames the fore part of June would give any one a perfect knowledge regarding all that would be necessary to know about that colony for the next month to come ! Is such as this to be the advancement (?) of the future ? If so, then I am glad that my apicultural life was cast among those of the past. I cannot feel otherwise than that the whole thing is a step in the wrong direction.

Beginners should be taught that it is an absolute necessity that they fully master all the minutia of the inside workings of a colony of bees, and after this has been fully learned, frames are to be handled only where a gain can be made by them. Work in the apiary is required only where a profit is to come from that work ; and that this handling and work must be done at the right time, in the right manner, and in the right place, if they would become successful apiarists.

It is with pride that I look at our achievements in apiculture during the past third of a century, and I doubt the advisability of our now going back to the guesswork of our forefathers. Rather let us keep climbing the hill of scientific apiculture till we shall have reached the loftiest table-lands, and from there shout forth the victory which may come to us through this always forward movement. Let the watchword be "FORWARD, MARCH !" Forward, till the unfathomable depths of the present, are reached in the future ; till the mind has grasped all that the mind of the Infinite has intended we should understand of this our beloved pursuit.

Onondaga Co., N. Y.



Against the "Weed" Deep-Cell Foundation.

BY THOS. G. NEWMAN.

I have read with interest the articles in the bee-periodicals by Mr. T. F. Bingham and Mr. W. Z. Hutchinson about the use of the new "Weed" foundation, and must say that I share their apprehension respecting the effect it may have on the pursuit of honey-production and honey consumption.

For years I fought the statement of Prof. Wiley, that combs could, or would, be made by machinery, filled with honey, and be placed upon the market. I stated that it was untrue, and even went so far as to say that I did not believe that it could be done.

I desired to protect comb honey from the suspicion which

might attach to it, if it was thought that the combs could be made and filled with adulterated, glucosed, or bug-juice honey, or even the poor qualities of dark and unpalatable nectar.

I wanted to keep the sections of comb honey so far above suspicion, that the fact of their being so put up, would be a guarantee of purity—virgin comb, filled with God-given nectar by the bees, and fit for the banquet of "the gods of old Olympus," or for any mortal or immortal being in the universe.

I tremble for the results, as I notice the efforts now being put forth to make the cells nearly one-half an inch deep, by the new foundation comb of the "Weed" pattern. It comes too near—horribly too near—to the manufactured comb described by Prof. Wiley a dozen years ago.

Is it not putting a club into the hands of the enemies of the pursuit, to beat out the brains of the apiarists? If not, it is standing on dangerous ground?

True, I grant you, it is intended for honorable work, but it makes dishonest work possible, and should be shunned as you would an adder? I surely think that it will injure the sale of honey, and destroy the pursuit, unless a halt is called.

Another danger is seen. It may give chance for the "mid-rib" scarce to arise again, and be a detriment to honey consumption. To apiarists, let me say, do not think of such a thing as using even thin brood-foundation in the sections, nor countenance this Weed abomination.

The remark of Mr. T. F. Bingham is to the point, and very appropriate. He says: "Butter is butter, but melted butter is grease; so comb is comb, but melted comb is wax." Let us be very careful not to allow the pursuit to be injured by the use of *too much wax* in the sections of comb honey.

San Francisco Co., Calif.

[As Mr. Newman has had no experience with the new deep-cell foundation, any more than has Mr. Hutchinson or Mr. Bingham, their suggestions can be taken only as an opinion. We do not anticipate any of the ill-effects mentioned in the foregoing. At any rate, it will be well to wait before passing judgment until bee-keepers have had an opportunity to fairly test the deep-cell foundation on a small scale. Then if it proves to be too "fishbony" or "mid-ribby," or in any way threaten the destruction of the industry, its use can very easily be discontinued. In the meantime, let us not work up any unnecessary or undue excitement over the matter. Mr. Weed, the inventor, is not a vicious man, nor are the makers of the deep-cell foundation anxious to ruin the honey-industry, for by so doing they would but ruin themselves.—EDITOR.]



Bi-Sulphide of Carbon a Foul Brood Remedy.

BY C. DAVENPORT.

Ever since I began bee-keeping I have had a great dread of foul brood, and until but a few years ago, comparatively speaking, its appearance in a yard usually meant the total destruction of the whole apiary. But now that the nature of the disease is known and understood, it can be cured by a method which probably all who read this understand. This method is, tho., a great deal of work and a large expense, as it involves the destruction of all the frames and combs in the hives of the colonies affected.

There are a few who say that it is not necessary to boil or disinfect the hive itself in any way. In curing the disease by the method of changing frames twice, I have no doubt that a cure will sometimes be effected if the hive is not disinfected, for if there are germs of the disease in any small amount of honey that may be left inside the hive, this will at once be consumed by the bees and used in comb-building, or stored in the first set of combs, the same as the diseased honey with which they are filled at the time of removal. But it seems to me there might be cases in which some infected honey in a crack or hole in the hive, where the bees could not reach it, would cause the disease to break out again. I believe the majority of the best authorities on the matter consider it necessary to disinfect the hive.

I believe that I have discovered a method by which this disease may be cured with much less work and expense; the frames and combs, as well as the hives, are saved, and any honey that may be in the infected combs is saved, and does not have to be extracted or removed from the combs. The healthy brood can also be saved without much work.

Three years ago last summer I conducted a great many experiments with different kinds of drugs, trying to find a better method of killing moths in comb honey than by the use

of sulphur. I was unsuccessful in this, for the fumes from any drug I tried, that would kill the moths, also injured the flavor of the honey. In these experiments I found that the fumes from bi-sulphide of carbon were very penetrating; they would go right through and through a comb of honey. This fume, or gas, is also deadly poisonous. But it all evaporates from the honey after it has been exposed to the air for some time. Honey treated by this method, tho., seems to become thinner, and the flavor is injured, but it is all right for the use of the bees, and the combs are not injured any, no matter how long they are subjected to the fumes. I decided that these fumes were strong enough to kill the germs of foul brood or any other disease. I did not have, nor never have had, any foul brood among my bees, but I thought if it ever did appear I would give the matter a trial.

The next summer, however (which was two years ago), I resolved to send for some samples of foul brood, and after a good deal of correspondence over the matter, I received three samples by express. Two of them were not foul brood, altho they greatly resembled it; the third was genuine foul brood, in an advanced stage of rottenness; it was a piece of comb about 6 or 7 inches square, containing some honey, and about $\frac{1}{2}$ of the cells contained dead brood in different stages. This was treated to the fumes of bi-sulphide of carbon over night, or about 10 hours. A colony was isolated from the rest, and the piece of foul brood laid on top of the brood-frames near the center of the hive; the cover was placed on, and prest down, which masht it so that it ran over the combs, brood and bees. The front of the hive was raised so that none of it would escape. No signs of the disease have appeared in that colony as yet.

Now, if the bacilli and spores of foul brood can be killed by this means (and in my mind there is not a doubt but what they can), a tank could be made large enough so that several hives could be treated at once, if there were many colonies affected. Only a few extra hives with frames would be necessary, for the infected hives and combs could, after treatment, be used for the second change. Combs containing healthy brood could be tiered up on one or two hives, and these then treated after the brood had hatch. No frames, combs or hives would be injured in the least by this method. While frames are not very expensive, their cost, with the freight, work of nailing them together, and a sheet of foundation for each one, would make quite an item if many colonies were affected.

I think all will see the great advantage this method would possess over destroying the frames and boiling the hives, for it would not be nearly as much work to disinfect them as it would to nail new ones together, to say nothing about their cost. The cost of the bi-sulphide of carbon would be but a trifle.

To disinfect combs by this method, all that is necessary is to place them in a very tight box, with some of the carbon in an open dish, so it will have a chance to evaporate. The box should be as nearly air-tight as it is possible to make it. The amount of carbon to use does not matter, so that there is enough; for any that does not evaporate will be just as strong, or good, to use the next time.

Moths in brood-combs can also be destroyed by this plan, which also kills the moth-eggs, if there are any. But as this method injures the flavor of the honey, if it were used as a means of killing moths in surplus comb honey, our industry would be greatly injured, if not destroyed.

Before closing, I will add a word of caution about the use of bi-sulphide of carbon. It is not only very inflammable, but it is explosive as well. No one should ever go near it, or the fumes from it, with a light or fire of any kind.

Southern Minnesota.



Pres. J. M. Hick's Address Before the Indiana State Convention.

I would like to suggest several thoughts for consideration for our mutual benefit.

First, It occurs to me that we all should try to economize our precious time to the best interest of each and every subject of importance to the bee-keeper.

Second, That in doing so, we not only advance the best interest of those who keep bees for profit, but also that of every farmer and fruit-grower in the State.

Third, Let me admonish you, one and all, that it is well known by many who have kept bees in years gone by, as well as those who keep bees now, that almost all the natural resources for bees have, by natural causes of civilization, been greatly and materially lessened in our State; hence it should

become a matter of interest to us all to look well to the best methods of furnishing the best means of supplying our bees with pasturage for honey. I have no fears of failure in keeping bees for profit, if we have plenty of pasturage for them to work on. This can, in many ways, be supplied both by the bee-keeper and many times by his neighbor; and that, too, with double profit to both.

Fourth. This now brings me to the subject I most desire, for the greatest good to the greatest number—that of proper legislation by the law-making power of our State, to exempt bees from taxation, in order that we may, as an organization, try to induce more of our citizens to go into bee-keeping, at least to keep a few colonies. It is a well-known fact, that at the present time there is not one colony of bees kept in our State where there were at least 50 colonies 40 years ago; neither is there one pound of honey or wax produced where there were 50, years ago, by those of our primitive bee-keepers.

I wish I could impress the idea upon this Association, of the great importance of having a full and careful report of the proceedings of this Association each year, so that they may become of more interest to each and every bee-keeper of our great State.

It is a noted fact, as a practical illustration, that the county of Clinton, now leads in our State the greatest number of colonies of bees, there being within her borders 1,998, and yet there were in the same county nearly 6,000 colonies in 1856. And in Ohio county there were, in 1856, 1,239 colonies; at present only 191. So it is to-day in nearly all the 92 counties of our great agricultural State; we find less than a fourth as many colonies as were kept 40 and 50 years ago.

I feel it my duty to inform you of the facts, and if possible let us all put our shoulders to the wheel, and try to correct such mistakes by at least asking our law-making powers to place all the bees of our State on the free list, so that all who may wish to have few or many colonies may do so free of taxation. This, to my mind, would be quite an encouragement, or incentive, for all who may wish to start again, as well as those of us who may wish to increase our depleted apiaries, and thus materially aid our agricultural brethren, as well as all who may be engaged in and are raising the various fruits of the State. And thus we become mutual benefactors, and greatly add to the material interest and wealth of all good citizens of each community.

J. M. HICKS.

CONVENTION PROCEEDINGS

Proceedings of the Colorado State Bee-Keepers' Convention.

REPORTED BY F. L. THOMPSON.

[Continued from page 182.]

CARBOLIC ACID AND PINE TAR A CURE FOR FOUL BROOD.

Some three years ago, after trying for two years or more to get rid of foul brood in my apiary, and using every remedy that I then knew or could hear of, and having failed to succeed, I concluded to try what a number of people said was the only sure cure. Accordingly, I supplied myself with a liberal supply of sulphur and killed all my bees, and of course got rid of all the foul brood—and bees also. I then gathered all the dead bees together and cremated them.

The following season I purchased new swarms, and put them into new hives, and for two seasons was free from the dreaded disease. About a year after killing my bees, I saw in Gleanings in Bee-Culture, an item giving a remedy that was copied from the Deutsche Imker, that impressed me as being one worth trying. I looked through Gleanings to find some notice of it editorially, but found none; however, I made a note of it, thinking if my bees were ever troubled with foul brood again, I would try it.

Last season the opportunity came, and I tried the cure, and watched its results with a great deal of interest and satisfaction. On examining my bees in May, I found four colonies that were infected with foul brood—two slightly, and two very

badly. I immediately moved them out of the apiary some 30 rods, and began treating them, looking after them about twice a week. After about three weeks the colonies that were slightly infected only, seemed to be rid of foul brood, and were strong; and when the honey-flow commenced I put on the supers, and they filled two each; and in the two badly infected colonies, at the end of two months I was unable to find a trace of disease, and they were very large, strong colonies. I examined them carefully several times before the close of the season.

The remedy or cure is very easily applied, and is as follows:

The pure carbolic acid one part, common pine tar one part (or half and half); mix thoroughly. Get a shallow tin box for each colony; with an awl perforate the cover in order to let the odor escape; put about two tablespoonfuls of the mixture in it and place in the center of the hive, under the frames, and if in three months the foul brood has not disappeared, renew it. This is the cure, and I believe it to be a sure cure, from my experience.

COL. WHIPPLE.

Mr. Adams—Liquid carbolic acid bought at the drug store is anywhere from 35 to 90 per cent. pure. To get it pure, buy the crystals and melt it, with a tablespoonful of water to a pound of acid. I have used exactly the same ingredient (with the addition of turpentine, which I think is an improvement), as a disinfectant of chicken-houses, etc.; also when exposed to diphtheria, with success. It never occurred to me to apply it to foul brood, but I believe it would be a good thing.

Col. Whipple—The colonies treated are the strongest in the yard.

Mr. Rhodes—Sometimes the brood is dried up and covered with honey, and the disease appears the next season.

Col. Whipple—I examined just for that. I mark the infected portions.

Mr. Tracy—I have not tried carbolic acid as a remedy, as it was claimed by Mr. Root to be ineffective. Why does Mr. Root say there is no virtue in carbolic acid? I have been using carbolic acid as a preventive each spring for six years. There was foul brood all around, up to within half a mile, but I had none during that time.

Col. Whipple—Mr. Root doesn't know everything! It takes a novice to try these things.

Mr. Rhodes—But old, sealed honey keeps the disease. The remedy does not take out the foul brood which is dried at the bottom of the cells. I have here a sample of comb brought by the Secretary, in which you can see the foul brood dried at the bottom of the cells.

Col. Whipple—The remedy kills the germ—what difference does it make if it is covered up afterwards?

Mr. Adams—if it is covered up before the remedy is applied, the remedy cannot act.

Mr. Rhodes—one must be cautious in trying such things, and be sure to make good work.

Vice-Pres. Porter—Mr. Whipple did his work in a thorough way. I asked him to present the matter; not that I think it absolutely certain. I never did have any faith in "sprinkling"; but this is different.

Mrs. Booth—I shall try it, even if Mr. Whipple's bees do have the foul brood again.

Mr. Dudley—Our bee-keepers follow the plan of transferring to new hives and sheets of foundation. It is more laborious, but has given good satisfaction.

Col. Whipple—I tried the transferring plan, and took a great deal of pains. In the fall of the year I found 10 or 12 colonies infected with foul brood. I tried it for two years and did not succeed, then killed the bees.

Mr. Brock—Were you near other apiaries where there was foul brood?

Col. Whipple—I do not know.

Mr. Brock—one season I transferred the whole yard, and foul brood returned. I laid it to the surroundings. I transferred another time when there was no foul brood in reach, and to-day those bees are in good condition.

Col. Whipple—for two years after killing I had no foul brood. Hence, there seems to have been no foul brood around.

H. Rauchfuss—it is not easy to keep foul-broody combs away from bees. The best honey-house is not safe. You might have got it that way. And then, it is said that the germs float in the air. Even if the bees were kept away, the combs might be a source of infection.

Col. Whipple—I melted all my combs soon afterwards.

Mrs. Booth—Can honey be disinfected by boiling? I burnt frames and combs; boiling the honey a long time, and put some carbolic acid in. Will this do to feed the bees?

Mr. Adams—There is not a particle of danger. The honey ought to be thinned.

Vice-Pres. Porter—I always feed it back. I add no acid. It should be thinned, boiled until it foams, and the foam skimmed off. There is no possibility that a germ can live in boiling water.

Col. Whipple—I believe the sun's rays are enough to kill the germs, but I always boiled the honey.

Mr. Adams—The sun's rays will kill dry foul brood, but not foul brood in honey.

Mr. Booth—Is foul brood animal or vegetable?

Mr. Adams—It has the power of locomotion, but is a vegetable.

FOUL BROOD LEGISLATION.

The report of the legislative committee was resumed. It was stated that as one member, Mr. Adams, lived away from Denver, and as there had been some delay in correspondence, Mr. Adams was not responsible for most of the changes proposed in the present law relating to bee-diseases. The first change was to add to the first section, which relates to the appointment of inspectors by County Judges, at the request of the President or Secretary of the Association, or of five actual bee-keepers of the county, a clause providing that such persons appointed should have previously past an examination before a committee appointed by the Secretary of the State Association, and authorized by the State Agricultural College.

Mr. Booth—The inspector should hold a certificate from the college, as the horticultural inspectors do. But perhaps we had better not meddle with the law. We may lose it entirely by so doing, as there is a disposition to oppose it in some quarters.

Secretary Rauchfuss here read a letter from the Inspector of Montezuma county, Mrs. A. J. Barber, in which she said that for several years that county had been without an inspector, though one was needed, because the County Judge had refused to appoint one, alleging the unconstitutionality of the law. Last year a new County Judge came in, and an inspector was appointed.

Mr. Brock—The Association should pass upon the man, not the college.

Mr. Rhodes—The Judge is not the man to decide on the constitutionality of the law. I am not in favor of amending the law at present.

Mr. Adams—Is the law constitutional until declared unconstitutional?

H. Rauchfuss—if the law is not amended, it will be repealed, there is so much opposition. We had better have no law than the present one. The bee-keepers are at the mercy of the inspector. It is very easy to find five bee-keepers who don't know much. How many of our inspectors are selected by competent bee-keepers?

Mr. Adams—The inspector is also at the mercy of the law. I would much rather have our present law than none at all. None but an expert could have kept bees without it.

Mrs. Booth—My trouble was to get an inspector to come. I have no fault to find with the bee-inspector.

Vice-Pres. Porter—There is a penalty for the inspector. He can be removed from office.

Mr. Booth—No inspector inspects in the winter.

H. Rauchfuss—but there is nothing to prevent him from doing so. An inspector may be incompetent. I know that a certain lot of bees was moved on the certificate of the inspector that they were free from foul brood. I found the disease among those bees before and after the certificate was given.

Vice-Pres. Porter—Five bee-keepers in one's own county are better than a certificate from Ft. Collins. As a whole, there has been very little complaint under the law. The work has been well done.

Mr. Rhodes—We want all the defects of the law brought out, provided the law is not broken down.

Mr. Sylvester—It is claimed that foul brood may be an advantage to those who are posted—it keeps other people's bees from multiplying! There is too much authority given to the inspector, but I have not known of an inspector who took advantage of it. The only trouble is that taxes may be increased by some one who wants to make money. My opinion is that the law should remain as it is, unless you want it repealed. I think formic acid and lysol are far preferable to carbolic acid. It is reported from Hamburg that foul brood germs are almost everywhere. Nature has provided formic acid in the honey to destroy the germs, provided they are not too excessive. Foul brood sometimes disappears in a good flow of honey. I should use lysol and pine tar.

Vice-Pres. Porter—It takes some time to find the right proportions of these new disinfectants. The continuous odor

from carbolic acid and pine tar strikes me as likely to be effective.

The rest of the proposed amendments were then read, and the first section read again.

Mr. Tracy—A committee of practical bee-keepers is better authority than the college.

On motion, action on the amendment was deferred until the second day.

Mr. Booth then read Mrs. Booth's paper on "Early Days of Bee-Keeping in Colorado," which was not handed in to the Secretary.

The inspectors' reports were then read. As the Secretary contemplates a classification of these, and a comparison with former years, they will not be given at present.

Mrs. Booth—Supposing the weather turned too cold to inspect, after the inspector had arrived at an apiary. He ought to have his pay for the time expended.

Mr. Tracy—The inspectors should be paid traveling expenses for a personal visit to the Association meeting, when they make their reports.

Vice-Pres. Porter—Mr. Adams, how many years have you been inspecting?

Mr. Adams—Six or seven.

Vice-Pres. Porter—How does this report compare with those of former years?

Mr. Adams—Of late it has been increasing, coming over from Weld county. My first year's report, as nearly as I can remember, showed 11 per cent. diseased out of two or three thousand colonies inspected; the next year, 7 or 8 per cent.; and next year, very little. The law saved our district.

Mr. Booth—I was appointed a committee by the Horticulturists to confer with a committee appointed by this Association on changing the law so as to allow of printing the Bee-Keepers' Association reports with those of the Board of Horticulture, in accordance with a resolution I introduced in their meeting. It was stated in their Legislative committee that bee-inspectors had more authority than fruit-inspectors. To show the importance of our business, I will state that considering the time spent, my wife made a greater proportion of money from her bees than I did from my fruit and farm.

SECOND DAY.

The reading of the proposed amendments to the law relating to bee-diseases was repeated.

On motion, the amendment to Sec. 1, providing that an inspector should pass an examination before being appointed, was rejected.

A clause added to Sec. 2, providing that the inspector should give \$500 bonds, was adopted.

Clauses in various sections, alluding to "any source of infection," and designed to cover cases in which what were formerly apiaries, but could no longer be called so, yet were sources of infection, were approved.

A provision added to Sec. 4, creating a Board of Arbitration to settle disputes between inspectors and owners, was rejected, after being thus discussed:

Mr. Booth—Anybody may be found fault with. Let the owner suffer. I pity him, and for that reason don't want to give him any chance to get in a lawsuit. I remember a case in which the inspector proved to be right, and a man well acquainted with bees was wrong. Don't give any chance for controversy.

A clause added to Sec. 4, requiring the inspector to make a second visit in five days, was rejected after the following discussion:

F. Rauchfuss—Suppose the inspector says he can't come because he is not paid for second visits? The inspector of Arapahoe county is given orders not to make second visits.

Mr. Adams—The inspector is free to act regardless of the orders of county commissioners. In 6 out of 10 cases it is not necessary to make a second visit; but this clause compels him to add expenses to the county. Yet something should be added to protect the inspector. But he should not be compelled to make the second visit.

Mr. Booth—We generally have pretty good men for county commissioners. If three or four bee-keepers talk to them they will grant anything reasonable.

H. Porter—My commissioners refuse to pay for second visits, so I just let the matter stand. Would the inspector be allowed to go, providing he was sent for? I have been sent for the second time.

Vice-Pres. Porter—Make it an original case each time. If an inspector is notified, he has to go. We want to protect both the county and the inspector.

To Sec. 5 the committee had proposed to add the following: "And should said inspector neglect to disinfect himself and assistants, or fail in the performance of any of his duties

as defined by this Act, he shall on conviction before any Justice of the Peace, be liable to a fine of not less than \$20 or more than \$50; and after being found guilty on two occasions of neglecting his duties as set forth by this Act, he shall be disqualified from holding his office." The part relating to disinfection was rejected, and the rest adopted, after the following discussion:

Mr. Adams—What constitutes disinfection? It should be done between every two hives he visits. I do so.

Vice-Pres. Porter—The inspector should carry an atomizer.

The proposed addition to Sec. 7, forbidding under penalty the moving of apparently healthy bees in an infected district in a county which has an inspector, without a written permit from the inspector, was adopted.

A change in Sec. 11, requiring the inspector to make his report to the county officials first, was adopted.

A motion that the committee be instructed to add a clause restricting the expenses of the inspector to a certain sum was carried, but afterwards reconsidered, and the report as a whole was adopted as amended. No action was taken either to discharge the committee or to instruct them to present the adopted amendments to the Legislature.

(Continued next week.)

Questions AND ANSWERS

CONDUCTED BY

DR. C. C. MILLER, MARENGO, ILL.

[Questions may be mailed to the Bee Journal, or to Dr. Miller direct.]

A Gentle Hint to Questioners.

The desire of the American Bee Journal is to give the greatest freedom possible to all who write to it for information or otherwise. When a question comes for answer, it will receive earnest attention, no matter whether it be well or poorly written. But it does make a difference as to one's comfort in the matter. Before me lies a postal card crammed full of closely-written matter not the most easily read. It would have cost a cent more for postage if it had been sent in a letter, but I'd a good deal rather pay the extra cent and have it in better shape. There's not the slightest objection to the use of a postal card, and in some respects it is preferable, providing there is plenty of room on it for what is to be written. But please remember that when a question, or a series of questions, is plainly written, without any crowding, it's a bit easier to get at what is wanted, and you're more likely to get what you are after in the reply. Of course, there's no desire to repress questions. Send them along, even if they must be dimly scribbled on scraps of refuse paper, but if written with some attempt at neatness and legibility the effort will be appreciated.

C. C. M.

Contraction to Stimulate Breeding.

1. In restricting the bees to a small number of frames in the spring to stimulate breeding, as described by yourself and Dr. Gallup, are the frames not in use removed from the hive? And if so, must the space all be taken by dummies?

2. Should the division-boards which confine this restricted brood-nest fit tightly at the top, bottom and ends?

3. At about what time in this locality should this process be begun?

4. Please throw in any chunks of wisdom which you think might be of use to— CHUCKLEHEAD, Dupage Co., Ill.

ANSWERS.—1. As a matter of actual practice, I don't do anything of that kind nowadays. Careful experiments made in France (I think it was by Prof. Gaston Bonnier) seemed to reach the positive conclusion that the heat of the brood cluster was conserved as much by having brood-combs left in place as by using close division-boards. The experiments were made by having a heating apparatus in the different hives and under different conditions, and were given in detail by the French bee-journals. It seems rather reasonable to suppose that a close-fitting division-board would be warmer, but if it is, the

difference is not enough, I believe, to pay for the trouble of making changes. Better have colonies of such strength that there isn't much chance to shut them down on two or three frames, or even four.

However, if you want to try restricting them, there's no need to remove the combs from the hive, so far as the bees are concerned. Just put in your division-board, crowding the unoccupied combs sufficiently to make room for the division-board.

If for any reason you think best to remove the combs, no need to replace them with dummies.

2. If division-boards are to confine the heat, the more nearly air-tight the better. But it's more troublesome to make them close at the bottom than elsewhere, and not of much consequence, for no warm air will escape at the bottom, but cold air enter there, and if all is close above there is no chance for escape of warm air, consequently no chance for entrance of cold air below.

3. From what has been said above, you may gather that I would begin it about May 1, but if you think best to begin at a different date, begin about the time of first spring flight when it's warm enough to open a hive without risk of harm from chilling bees or brood.

4. As you get to be less chockleheaded in the bee-business, you'll probably settle down to have never less than eight brood-combs in charge of the bees at any time of the year, leaving to others the trouble of changing at different times, and breaking up arrangements that seem to suit the bees very well without your interference. Now that's the only chunk you get till you ask some more questions, which I'll be glad to have at any time.

Size and Shape of Full-Pound Sections.

If you sold your sections by the piece, and wanted them to weigh full pounds, what size and shape would you use? and what surplus arrangement for 10-frame hives? E.

ANSWERS.—I don't know that I'd want anything of the kind, but if I did I suppose I'd want them (if to be used with separators) about $4\frac{1}{4} \times 4\frac{1}{4} \times 2$, in T supers. But please understand that you can't find a section of any size that will give you a uniform weight of one pound. At least I've never yet heard of a man who had succeeded in getting the same weight throughout a super in different colonies and in different years. I should consider it remarkable to find a super containing 24 sections with not more than $\frac{1}{2}$ ounce difference between the lightest and the heaviest. Moreover, I should consider it equally remarkable to find a man who had for five consecutive years got crops of 1,000 pounds or more with no greater variation in that time than $\frac{1}{2}$ of a pound between lightest and heaviest. From my present knowledge, I'd use T supers.

Questions on Spring Management.

As I purchast two colonies of bees last fall, and am having poor luck, and don't see the information in the Bee Journal I want, I thought I would ask a few questions. I have lost one colony from some cause or other. I have them in the cellar, and when I found they were dead or dying, I brought them up, and on examining I found they were nearly all dead, but had about 10 pounds of honey, but it was granulated, and tasted rather old. All through the brood-nest were spots of white mold. This is my first experience with bees. I gave the other colony two pieces of the honey, and they ate it.

1. Would it be policy to give them any more?

2. If they should live until summer, and swarm, would it be policy to put a new colony in the old hive?

3. If so, how am I to prepare it? Shall I take out all the old comb, or put in a new swarm just as it is?

4. When ought I to take them out of the cellar, and put them on the summer stand? D. W. S., South Dakota.

ANSWERS.—1. There is a great deal more danger of giving too little than too much food. The only danger as to giving too much is that if the brood-nest is too much filled with honey the queen hasn't room to lay. Possibly, however, your question may mean whether the stores taken from the dead colony are wholesome food for bees. As the honey is granulated, there is likely to be some waste in feeding it, but aside from this there is no objection to feeding it, especially at this time of year when the bees will soon have a flight.

2. Yes, the old hive will be good to use for a swarm.

3. If the comb is clean and nice, it will need no preparation whatever. Very likely, however, the combs are moldy. If you let it remain in the cellar, everything in the hive will

probably become still more moldy. Better take the hive out of the cellar, and if you haven't a good dry place for it indoors, you can put the hive full of combs under one of them. The bees will do a good deal toward cleaning up the combs, and it can be kept in no better place till the honey harvest begins.

4. If soft maples grow in your region, watch for their blooming, and then take the bees out of the cellar if the weather appears settled. If you have no soft maples, you'll have to depend on other general signs of settled spring weather. Take them out when you feel pretty sure there will not be a week or two of continuous cool weather so they can't fly. You'll have to do more or less guessing about it at best. Try to strike on a good day for putting them out, when the sun is shining, the thermometer 50° or more in the shade, and no wind.

Separtors—Dovetailing—Fastening Full Sheets of Foundation—Hive Rabbets.

1. Can there be either one—tin or wood—separators used with follower-board in supers on the 10-frame dove-tailed hive?

2. Is there any machinery now in use for dove-tailing, to make hive-bodies deeper than 9½ inches?

3. Can there be full sheets of foundation put into the sections with the McCartney foundation fastener and section press, or with any of the foundation fasteners?

4. Which is best, or most used by bee-keepers, the tin rabbets, or the wood, such as are cut in the hive, for brood-frames to rest on?

R. L. H.

ANSWERS.—1. Yes, the same separators and the same follower can be used in a super on a 10-frame hive as belongs to an 8-frame hive super, provided that in each case the sections run parallel with the brood-frames, and that's the way they run almost universally.

2. I don't know. But I suppose it would be an easy thing to have deeper if there was a call for it.

3. Yes, with any or all of them.

4. Probably the wood are very largely in the majority, because a large part of the hives were formerly made in that way. For some time I think the only tin rests used were those that accompanied brood-frames with metal corners as used in the Simplicity hive. Those were made of a single thickness of tin, and were not adapted to have wood resting upon them. Since the introduction of the rests or rabbets of folded tin, they seem to be more popular, and at the present time probably most hives are furnish in that way. They are liked better than the wood rabbets because the frames can be moved upon them more easily, and there is less chance for the bees to fasten the ends of the top-bars with bee-glue.

Wintering—Shutting Bees Up—Laying Workers.

1. My bees are too close together in their winter quarters. When will be about the right time to move some of them out on the summer stands, and the cushions off?

2. Last fall I united several of my weak colonies in the dovetailed hives, by setting one hive-body on top of the other. I find all the bees dead in one of the hives in the upper story—starved, with plenty of honey in the lower story. What was the cause of their dying? They were clustered right below the cushion. I put strips across the top of the frames for a Hill's device.

3. Will it be of any value to shut bees up in the hives in the winter, to keep them from flying out when they are warmed up by the sun, when the air is too cold for them? I don't think noise will disturb bees if the hive isn't jarred.

4. Would bees better be shut up in the hives when first put out of the cellar? I always let them have their own way.

5. What is best to do with a colony of bees when they have a laying worker?

N. English, Iowa.

ANSWERS.—1. They might stay for some time yet, only the longer they stand after they get to flying the more they will have their present locations fully markt, and the more trouble there may be about their getting back to their own hives. So you may do well to get them on the summer stands somewhere about the first of April, and even earlier if it should promise weather when they can fly every few days.

It may not be necessary to take off the cushions till about the time you want to put supers on.

2. The cause of their dying was just what you say—they starved. There was plenty of honey in the hive to keep them from starving, but if it was out of their reach it might as well

have been a thousand miles away. And in freezing weather all honey is out of the reach of bees except that which is right in the cluster. The probability is that you put one hive on the other when it was pretty late in the season. The bees would not go down to where the honey was unless there came a very warm spell, and before that time came they used up all the food they had and then starved. You may still ask why it was the bees of the lower story left it and went into the upper story. Bees are inclined to move upward because heat rises and it is warmer above. When they moved up, the cold weather caught them before they had time enough to carry up enough stores to last them till the next warm spell.

3. No, one of the worst things you can do is to fasten bees in the hive. They'll want to get out twice as bad whenever they find they're fastened in, and the uneasy ones will stir up the others.

4. They should certainly not be left shut up after they are on the stand. If troublesome about flying out and stinging while being carried to their stand, the entrance may be shut up with a very wet rag. You may also give them a little smoke just as you get them out of the cellar. Generally they will stay in their hives without anything of the kind if carefully handled.

5. If the colony is pretty strong, give it a young queen just out of its cell, or a queen-cell just ready to hatch. Perhaps, however, the very best thing to do with a colony that has a laying worker, is to break it up, and give the combs and bees to other colonies.

Drones After Swarming—Cutting Sweet Clover.

1. What part, if any, do drones act in the economy of the hive after the swarm has come out and the young queen has been fertilized? Is it not as well, or better, to kill them off, and save feeding them?

2. Would it do to cut sweet clover the first year for hay? In this country sweet clover gets 18 or 20 inches high the first summer, and if it could be cut for hay then, and again when in bud the next year, and still make fall pasture for the bees, it would be quite profitable from a hay point of view. What I am trying to do is to lengthen the honey-flow in the fall, as we have from four to six weeks after the middle of August that there is nothing coming in.

OREGON.

ANSWERS.—1. The only use that has ever been suggested is that they help to keep the brood warm. This, however, will be as well or better done by the same weight of workers. By the time the young queen is fertilized after a swarm has issued, there will be only sealed brood in the hive, and this requires very little care on the part of the bees. Indeed, in ordinary weather at the time of swarming, the sealed brood that is well along will not only hatch out if it is left out of the hive, but will produce heat enough to help keep warm the younger brood. As a rule, you may be the gainer to kill off the drones, but it would be much better economy never to have allowed them to be reared. The best you can do at repressing the rearing of drones, there will probably still be more than enough for all needs. Remember that when left to themselves, each colony will rear as many drones as though no other colony were within a thousand miles, and in an apiary of 120 colonies each colony will rear enough drones for itself and all the other colonies.

2. Sweet clover is one of the late growers, and if cut the first year at any time when the weather is hot enough to cure the hay, it will have plenty of time to recruit sufficiently to pass the winter, and that's all you want. If you can get a growth of 18 or 20 inches the first year (it sometimes grows twice that), by all means take from it a crop of hay. If you have white clover or some other bee-forage that yields during the first blooming of sweet clover, it will pay to cut the sweet clover at or before the time of its budding for bloom, even if the hay should be worthless for stock. For the later blooming may be worth more to you than a crop of hay would be. Of course, it will be still better if the cutting gives you a crop of usable hay.

Couldn't you tell us something about the value of sweet clover for pasturage or hay in Oregon?

The McEvoy Foul Brood Treatment is given in Dr. Howard's pamphlet on "Foul Brood; Its Natural History and Rational Treatment." It is the latest publication on the subject, and should be in the hands of every bee-keeper. Price, 25 cents; or clubbed with the Bee Journal for one year —both for \$1.10.



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Editorial Comments.

Our Advertisers, we believe, are all thoroughly reliable, and perfectly upright in their dealing. If not, we request our subscribers to notify us of any really unsatisfactory cases. We will not advertise for a firm that does not do a square business—not if we know it. We don't believe in helping dishonest people in the least. We are not here for that purpose.

But we believe we can sincerely recommend all who patronize our advertising columns, and we hope our readers will share their business with them.

Getting Supplies Early.—Nearly every season there is loss and unpleasant feelings occasioned by delay in ordering bee-supplies. Many bee-keepers wait until the very day they need them, and then berate the dealer if he doesn't ship by return train. Of course, it is exceedingly annoying to have to wait for goods when you need them at once. But who's to blame? Your dealer can't fill all his orders for the season in one or two days. For that reason, whenever it is possible, you should send in your order several weeks or months in advance, then you will be sure to have them on hand when required.

Directions for Growing Alfalfa.—An agricultural exchange publishes the following about sowing and growing alfalfa:

Alfalfa seed weighs 60 pounds to the bushel. For a hay crop sow 24 to 30 pounds of seed per acre. For a crop of seed sow 14 to 18 pounds per acre. Sow clean seed. North of the latitude of Washington, D. C., sow alfalfa in the spring as soon as the ground is warm—from the middle of April to the middle of May. Sow in drills or broadcast. In the South and Southwest and in California sow alfalfa in spring or autumn. Sow in drills. In the South sow in drills 16 to 20 inches apart, and cultivate the first season. Do not cover the seed too deep.

A Union for Each Object.—Mr. J. F. McIntyre, in Gleanings, seems to favor having a separate Bee-Keepers' Union for each object which bee-keepers desire to attain. For instance, he would have one Union to defend bee-keepers in their right to keep bees; another, to fight adulterators of honey; another to put down fraudulent honey-commission firms, etc. Yes, why not have a Union to stop bee-keepers from using drawn combs of any kind? And another to prevent their using any other but the divisible, invertible, interchangeable and turn-it-up-and-downsideable hive? Certainly,

let's have a Union for each individual bee-keeper, and then all be happy!

But, seriously, any one knows that one Union could just as well do all necessary work in the interest of bee-keeping as two or more, and save expense. But the amalgamation matter, so far as the existing Unions are concerned, is settled. There is no need to waste any breath over that. So far as we know, everybody was satisfied with the result, as determined by the ballot, and that ended all discussion. The thing to do now is to push the new Union, as the old one has a large bank account—money on interest—and needs no more funds, for its work of defense was practically finished long ago. About all it needs to do now, whenever trouble threatens, is to exhibit its court decisions and say, "We have a gold-mine of over \$500 to fight with, so look out!"

The next thing is to attack honey adulteration and honey-commission frauds. And the new Union will be equal to it.

That Combination Offer on page 170 is a fine one. Perhaps your own Bee Journal subscription is already paid to the end of 1897. If so, just get a new subscriber for the Bee Journal, and have the Samantha book and Woman's Home Companion sent to you or some lady member of your family. The book and woman's paper must both go to the same name and address, but the Bee Journal can be sent to some one else without extra charge. Just look at that big offer again, on page 170. It's one you don't meet with every day.

Benton's "Honey-Bee" Bulletin.—Hon. Geo. E. Hilton, of Michigan, has sent us the following paragraph taken from the Grand Rapids (Mich.) Herald, of March 25:

"Senator Burrows has introduced a resolution calling for the printing of 20,000 copies of Benton's book on the culture of bees. There has been an enormous demand for this publication of the Department of Agriculture, and as many of the applications have come from Michigan, Senator Burrows introduced his resolution to supply the demand, the regular edition having become exhausted."

Mr. Hilton makes the following explanation regarding the past as well as the proposed edition of the Benton book:

The regular edition under the statutes was only 1,000 copies. I ask Senator Burrows, about a year ago, to introduce a resolution authorizing the printing of a larger edition, and 20,000 more were printed. He seems to have taken the responsibility upon himself this time, and bee-keepers of the United States should write to their Senators and Representatives in Congress at Washington, D. C., asking them to support the resolution.

The Deep-Cell Foundation.—Mr. G. M. Doolittle, always fair, has this to say about the proposed new deep-cell foundation, while his fellow-editor—Mr. R. B. Leahy—in the same March Progressive Bee-Keeper, says he will do all he can against its use:

THAT WEED HONEY-COMB.—I see in the bee-papers quite a little about the new Weed comb foundation having sidewalls half-inch in depth, or such a matter. I note that some are opposed to it, on the old line of "fishbone," that we used to hear so much about years ago, when comb foundation first came to notice. Now I would like to ask, with all due respect to and for the opinions of others, Is the bee-fraternity any better off on account of section foundation? Hands up. How many hands do you see? Why, nearly, or quite, every one.

Well, then, I wish to say that this new comb is nearer, very much nearer perfection, for what it is intended, than was the section foundation when first put before the public for what that was intended, if the samples I have are any guidance to go by. I have just made a careful test with a sensitive pair of scales, and I find that there is no more resistance at the end of a piece of wire, in the sidewalls of the cells in these samples, than there is in the sidewalls of samples of natural comb that was built during the buckwheat honey-flow last August, and very little more than what there is in

the cell-walls to comb built during basswood harvest. But I find the septum to this high sidewall foundation, or comb, is quite a little thicker, or gives nearly double the resistance that the thin section foundation does, and two-thirds more than the septum found in natural comb built in sections.

But when I come to compare this seemingly thick septum with that of the first thin (?) foundation sent out, I find that the first has four times the resistance that has the septum of this new Weed comb. I, for one, have hailed this high cell-wall foundation, with quite a bit of enthusiasm, and believe that we have arrived at a stage in our pursuit where we as bee-keepers, nor "unscrupulous men," will not tolerate any invention as imperfect as was our first efforts at comb foundation. Nor do I believe the Roots will risk their reputation on anything which will injure the honey markets by pushing it to the front. Caution is always in order, but censure should not be used till there is occasion for it.

There have been several suggestions made that would indicate that a few people think the makers of this new deep-cell foundation are very careless and thoughtless as to the effect the new foundation will have upon the comb honey product in the eyes of the public. Now, we are not here to defend The A. I. Root Co.—they are well able to take care of themselves—but we wish to quote a couple closing paragraphs from an editorial on the subject in Gleanings for March 15. Here they are:

The brethren must not forget that we had been experimenting with this thing for about a year before we made it public. The quality of the comb honey, and the manner in which the bees accept the comb, have led us to put into it hundreds of dollars. We do not even now claim that we shall be able to put it on the market at such prices as will be within the reach of bee-keepers—the future will have to decide that; but we are in hopes we can. And please remember, too, that we consulted beforehand some of the brightest and most intelligent bee-keepers in the country, to whom we submitted samples. Among them I may mention such men as G. M. Doolittle, R. F. Holtermann, P. H. Elwood, Dr. C. C. Miller, Hon. George E. Hilton, M. H. Mendleson, Byron Walker, E. Whitcomb, besides all our local bee-keepers. Some of the men saw the machinery, and saw the product in the hives, and the product after it came out.

You may depend upon it, brethren, that we shall not put upon the market anything that will in any way injure the comb-honey business.....If we were to do so, we should be doing ourselves more injury than any one else—mark that.

Growing Sugar Beets.—The Agricultural Experiment Station has arranged with a large number of farmers in representative districts of Illinois to grow sugar beets for the purpose of ascertaining what sections of the State are best adapted to their culture. Realizing that there are many others in this State who are especially interested in the culture of the sugar beet, the Station will furnish, free of expense, to the first 50 who may request it a quantity of high grade seed. The only conditions are that the recipient be primarily interested in the sugar-beet question, and that he is willing to grow the beets according to directions, and at the close of the season to report upon cultivation and yield, and to forward samples for analysis at the expense of the Experiment Station. Any one interested in this will please address Prof. E. Davenport, Director, Urbana, Ill.

Don't You Zee?—It is reported that a swarm of bees coming across a jar of honey tightly closed, held an indignation meeting. After complaining of monopoly, and so forth, a bright little Italian arose and said: "Rouze up, dagoz; no oze drowzing here, for theirz a thouzand dozen flowerz to be vizited yet, Zip!" and away they flew. We don't know who reported this, but likely some smart shorthand writer!

The Illinois State Fair for 1897 will be held at Springfield Sept. 27 to Oct. 2, inclusive. For any information concerning it, address W. C. Garrard, Sec., Springfield, Ill. The premium list in the bee and honey department has been very greatly increased. Bee-keepers should be thankful for that, and show their appreciation by making a better exhibit this year than last, if that is possible.

The Weekly Budget.

MR. ALLEN LATHAM, of Norfolk Co., Mass., wrote March 17: "Bees are in excellent condition here."

MR. W. H. PUTMAN, of Pierce Co., Wis., has returned from his California trip, and reports having had a pleasant time.

MR. E. B. WEED, the inventor of both the New Process and the deep-cell foundation, is pictured in Gleanings for March 15. He is a very earnest looking man, with plenty of determination.

MR. E. FRANCE, the venerable bee-keeper of Grant Co., Wis., has been giving some interesting wolf-hunting reminiscences in Gleanings. He was as great a hunter in his earlier days as he has been a bee-keeper in his latter days.

MR. F. A. LOCKHART, of Warren Co., N. Y., is just recovering from a very severe attack of the grip. He wrote March 22 that the 325 colonies of bees belong to F. A. Lockhart & Co., have wintered splendidly, and that they are looking forward to a prosperous season this year. We hope that it may be so.

MR. DAVID ADAMS, of Minnesota, wrote us as follows, March 20: "One interested in bees could not but be benefited in reading such a magnificent paper as is the American Bee Journal. Long may she live, and with the return of prosperity I hope its list of readers may be doubled, and thereby make glad the heart of 'ye editor.'"

MESSRS. VAN ALLEN & WILLIAMS, of Barnum, Crawford Co., Wis., we were very sorry to hear, met with a heavy loss by fire recently. Over 200 colonies of bees were burned, besides other property. On another page of this issue they tell about it. They say they will be fully prepared to care for their trade all right the coming season. We had the pleasure of meeting Mr. Van Allen at the Wisconsin convention, in February, and found him to be a pushing, hard-working young bee-keeper.

MRS. J. N. HEATER, of Columbus, Nebr., we were very sorry to learn, died March 13, 1897, from the effects of anaesthetics administered for an operation just performed at a hospital in Kansas City, Mo. This will be very sad news to her host of bee-beeping friends all over the world, for all who have read the Bee Journal the past dozen years remember her answers to queries in the "Question-Box." Our sincerest sympathy is hereby extended to the bereaved husband, who now mourns the loss of one of Heaven's best gifts—a true and devoted wife.

Next week we will publish a biographical sketch of Mrs. Heater, with picture.

MR. S. T. PETTIT, of Ontario, Canada, father-in-law of Editor Holtermann, of the Canadian Bee Journal, is one of the best known bee-keepers "tother side of the line." He wrote us recently:

"I am in my 68th year now, and have been a busy worker, clearing land, building, underdraining, and all that, besides church, Sunday school and temperance work."

We had the pleasure of meeting Mr. Pettit at the Toronto convention of the North American Bee-Keepers' Association, in 1895. He is a leader in all good works, including bee-keeping.

The Alsike Clover Leaflet consists of 2 pages, with illustrations, showing the value of Alsike clover, and telling how to grow it. This Leaflet is just the thing to hand to every farmer in your neighborhood. Send to the Bee Journal office for a quantity of them, and see that they are distributed where they will do the most good. Prices, postpaid, are as follows: 50 for 20 cents; 100 for 35 cents; or 200 for 60 cents.

White Clover Seed.—We have quite a quantity of White Clover Seed on hand that we will send you at a bargain. A little of it goes a good ways. It usually retails at 25 or 30 cents per pound, but we will mail you 2 pounds for 40 cents, or for sending us one new subscriber to the American Bee Journal for a year.

FAIRYLAND OF FLOWERS.

A Popular Illustrated Botany for the Home and School.

By MARA L. PRATT.

Author of "American History Stories," "Young Folks' Library of American History," etc.



common name so dear to children—and to adults, too, for the matter of that—are good enough. For the first time this subject is presented so that it becomes, as it should be, a veritable Fairyland for the little ones.

Hundreds of illustrations of flowers—so necessary yet so scarce in most botanies—adorn its pages, while the charm of Miss Pratt's inimitable style is thrown over all. The pretty poems, legends and stories connected with the children's favorite flowers also find their place within its covers.

It's a handsome quarto book, one you and your pupils will treasure at home, as well as in the school.

Though many illustrations have been added, we shall continue for the present to publish it at the popular price of \$1.00.

Our Liberal Offers: We will mail this great Flower Book, postpaid, for \$1.00; or for \$1.75 we will send it with the Bee Journal for one year; or we will mail it free as a premium for sending us **Two New Subscribers (\$2.00)** to the Bee Journal for a year.

GEORGE W. YORK & CO., 118 Michigan St., CHICAGO, ILL.

PROFIT IN SPRAYING FRUIT
DEPENDS LARGELY UPON THE EMPLOYMENT OF BETTER METHODS.
SPRAYING Helps Amazingly.
We make everything used for SPRAYING and tell all about it in our Book on Spraying. Formulas for insecticides; when and how to spray—**FREE.**
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19 Ovid St. SENECA FALLS, N. Y.
4C5t Mention the American Bee Journal.

FOR SALE!

40 acres of land suitable for the growing of oranges, lemons or olives; situated in San Diego Co., Calif., with a well-equip apairy of 120 colonies of bees in good condition; 3-room house, with good water. Apairy produced over five tons of fine comb honey from 90 colonies of bees in 1895. Price, \$2,000.

Address, Dr. P. J. PARKER,
11A3t 955 5th St., SAN DIEGO, CALIF.

EGGS

From Pure B. P. Rocks, Black Minorcas. Light Brahmias—\$1.25 per Sitting. Also, will stuff and mount Birds and Animals to order; price, for small birds and animals 60c. and upward.

Plants for sale cheap—Red and Black Raspberry, and Strawberry.

MRS. L. C. AXTELL,
ROSEVILLE, Warren Co., ILL.

General Items.

Bees Doing Well.

Bees are doing well. I took them out of the cellar about 15 days ago. Success to the American Bee Journal.

Ray Co., Mo., March 23. PETER GALLE.

Have Great Anticipations.

I began keeping bees in 1893, by purchasing one colony, and have increased, by buying and swarming, to 18 colonies, most of which I think I will get through to flower time. It has been quite unfavorable for bees here for the past two years. We were frozen out in the spring of 1895, and drowned out in 1896, but we are looking forward to the season of 1897 with great anticipations for a good honey year, as most things point in that direction.

I would not attempt to get along without the American Bee Journal.

V. F. TAYLOR.

Upshur Co., W. Va., March 16.

Wintered Finely.

We had a very mild winter here—hardly any snow, and not very cold. Bees wintered finely. I like the way Editor York goes after the fraudulent commission-men, and those that adulterate honey. I think Mr. Skaggs' suggestion is a good one, on page 164.

I like the Bee Journal very much, and would not miss it for a good deal.

Where can I get seed of the Simpson honey-plant? GEORGE LACY.
Livingston Co., N. Y., March 19.

[Apply to the seed dealers who advertise in the Bee Journal.—EDITOR.]

Everything on the Boom and Bloom.

Bees here are on the boom. Brood-rearing is going on nicely, but was somewhat backward last week, owing to the temperature taking a drop from 70 degrees Fahr., to 43 degrees, but it has again risen in the last three days to 81 degrees. Everything is on the boom, from the old Mississippi river to plants and flowers of all kinds. Plums have bloomed, and bees gathered a little nectar from them. Dandelion is beginning to bloom, but the bees do not work on it at all. Peaches are blooming, and bees gather both pollen and nectar from them. The large black or dewberry is blooming profusely in waste places and swamps. White clover is beginning to get white all over with flower-heads, but they do not seem to furnish any nectar until May, when we have some real hot weather, and everything is dry. Sunflowers are springing up, which means a good supply of pollen and nectar about swarming-time.

JAMES B. DRURY.

Orleans Co., La., March 3.

Heavy Loss by Fire.

On March 5, while Mr. and Mrs. Van Allen were away from home, getting their little boy's broken arm dressed, the bee-house owned by Mr. Van Allen caught fire in the roof, caused by a chimney burning out. It was not discovered till the fire had made such headway that it was impossible to save the building or any of the contents. There was a strong wind at the time, which carried the flames over the outside cellar-way, so that it was not possible to get into the cellar to save any of the 218 colonies of bees in winter quarters. The loss on the building and contents, including bees, surplus combs, automatic extractors, and other supplies stored there at the time, is \$2,300 to \$2,500. We were carrying some insurance at the time (we get \$900 from

that source), which will come quite handy at the present time.

This loss is a hard blow on us, but we wish to say to the readers of the "Old Reliable" that altho we feel a little "bunged," we are "still in the ring." We have one apiary left, from which to supply our queen-trade, till Mr. Van Allen can re-establish his apiary, which he will be able to do by the first of June. He will buy bees as near home as possible, and stock his apiary with queens from the best breeders in this country. He expects thereby to start up with the very best strains of bees obtainable.

Calls for price-lists of extractors have been coming in all winter, but since the appearance of our advertisement in the American Bee Journal, calls have come "thick and fast." Early in the winter we made what we thought was ample provision for our next season's business, but it begins to look as if it was going to hustle us to keep up with the increase of trade.

The prospect for the bee-business in this locality was never better at this time of year. Last night the rain took off nearly all the snow, and today the white clover looks green and fresh.

VAN ALLEN & WILLIAMS.
Crawford Co., Wis., March 19.

A Beginner's Report.

I started last spring with five colonies of hybrid bees. I lost one colony with moths, increased to 13, and took off 220 pounds of honey. I put them into an outer apartment of my cellar, where they are shut off entirely from the vegetable cellar, and where they are not disturbed unless we take a peep at them to see how they are getting along. When the mercury was from 10 to 35 degrees below zero for a number of days, it froze some in their apartment, but when the weather moderated it soon warmed up again. At this writing (March 19) they are all alive and apparently getting along nicely.

I have various styles of hives, obtained of different farmers or bee-men who are not "up to the times." Most of them are one foot high, and of various sizes, generally 17½ inches long and 12 or 14 inches wide, inside. I want to adopt a uniform size, regardless of the ones I have. What size is best? Are eight or ten frame hives to be preferred?

I have about eight acres in berries and purpose to combine bee-keeping with small fruit culture. The hail, however, destroyed my berry crop last year, but I am hoping for better success in the future.

Winneshiek Co., Iowa. JOHN RIDLEY.

[Hives taking a frame the Langstroth size or there about—9½ deep, by 17½ long—are most generally in use. Experts are not fully agreed which is to be preferred, the 8 or the 10 frame hive. But some think that the majority will finally come to the 10-frame hive.—EDITOR.]

Honey-Can Caps—Drawn Combs.

I have been tempted several times to enter a protest against the cap of cans in general use for extracted honey. The caps in general use are about one to 1¼ inches in diameter, and I would prefer them at least two or 2½ inches, and will give my why for so large a cap:

In reducing honey when candied or granulated to a liquid state by heating, the honey expands, and it is necessary to get some out of the can by some means, and to my notion the cap should be large enough to admit with ease a tablespoon or small cream-ladle. I bought, last fall, four cans of honey, and one can was double capped, the larger cap nearly three inches, but three of the cans I could not get a teaspoon into, and therefore it was very annoying. I hope those who practice extracting will insist on manufacturers using larger sized caps on cans for honey.

I am engaged in the production of comb

**GOING for
WARNER'S
SAFE CURE**

is much better than going for the doctor, and is quite as effective and costs less money. You need always at hand a safe, sure remedy like

**Warner's
Safe Cure**

which will bring instant relief from sudden illness and work out a permanent cure.

A POSITIVE CURE FOR

**BRIGHTS DISEASE
URINARY TROUBLES
FEMALE COMPLAINTS
GENERAL DEBILITY
AND MALARIA.**

Cures also, all those diseases arising from disordered Kidneys or Liver. Large sized bottle or new style smaller bottle at your nearest store. Try it and know the satisfaction of such a remedy.

Mention the American Bee Journal.

Memorial Cards!

(With Portrait on them)

For presentation upon the death of a dear one, to relatives and friends, have come into vogue quite generally of late years among the American people. We furnish them to order. Send for free illustrated circular and price-list. Prompt and satisfactory work at living prices. Address,

G. S. UTTER & CO.,
Times Building. CHICAGO, ILLS.

WANTED—ATTENTION!

SEE HERE, Friend Bee-Keeper, the best goods are none too good, and the lowest prices are none too low for the present times, so down go the prices for 1897 on **Full Line of Bee-Keepers' Supplies.**

I defy competition in quality and workmanship. **Working Wax** into Foundation when sent to me, a specialty. Write, without fail, for Catalog. My prices are worth looking at. Wax wanted at 26c cash, or 29c in trade, delivered.

August Weiss, Hortonville, Wis.

6A8t Mention the American Bee Journal.

Pacific Coast Bee-Keepers!

—BUY YOUR—

Dovetailed Cedar Hives

Direct from the Factory. Guaranteed equal to the best goods on the market.

Send for Price-List.

Rawson & Barner, Centralia, Wash.

10A13t Mention the Am. Bee Journal.

**Golden
Adel
Albino**

Texas Queens!

Dr. Gallup says they are the best he has in his yard.

J. D. GIVENS, Lisbon, Tex.

Mention the Bee Journal. 9A26t

honey, and do very little extracting; unfinished sections is the only extracting I do, and the past season it amounted to about four cans of 60 pounds each. I therefore have a fair supply of drawn comb in sections for the coming season, which I consider prime stock to carry over, and if I only had it in sufficient quantity I would insure many dollars otherwise lost, not excepting the best foundation yet produced.

We are now expecting, yes, patiently waiting, for the new era—foundation equal to drawn comb is promised. Dr. Miller, like all others, hopes for it. The A. I. Root Co. promises it. Who can doubt we are to enjoy it? So whoop it up all along the line until we get it, and then—but say (don't tell it) nothing yet produced by man is equal to comb built wholly by the bee!

J. S. HARTZELL.

Somerset Co., Pa., Feb. 23.

A Hellish Business.

The Cleveland Journal and Bulletin says that a gentleman of that city attended the meeting of the Ohio State Liquor League, and took down in his notebook the following extract from the speech of one of the officers of the League:

"It will appear from these facts, gentlemen, that the success of our business is dependent largely upon the creation of an appetite for drink. Men who drink liquor, like others, will die, and if there is no new appetite created, our counters will be empty, as will be our coffers. Our children will go hungry, or we must change our business for something more remunerative."

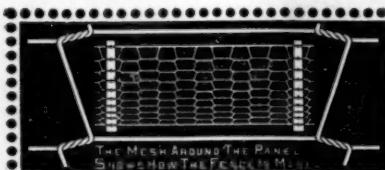
"The open field for the creation of this appetite is among the boys. After men are grown, and their habits are formed, they rarely ever change in this regard. It will be needful, therefore, that missionary work be done among the boys, and I make the suggestion, gentlemen, that nickels expended in treats to the boys now will return in dollars to your tills after the appetites have been formed. Above all things, create appetite."

[The above we take from a recent copy of the Epworth Herald, of this city. Just read those two quoted paragraphs again, emphasizing every word, and see if you think any one need apologize for being the rankest kind of a prohibitionist or anti-saloon man. We hope no bee-keeper can read those fiendish words without resolving henceforth to wage eternal death to the hellish liquor-traffic. We have no boys of our own that the saloon devils can "treat" and destroy, but we are glad to help save somebody's else's boys, if we can, from a drunkard's grave and a drunkard's doom.—EDITOR.]

A Glorious Honey-Year.

As far back as I can remember I never saw such a glorious honey-year as was 1896. During June the white clover blossoms made our pastures look as if they were covered with snow. Bees fairly swarmed in with loads of sweetness that would go to waste if not for them. My average crop of the season was 110 pounds per colony, spring count, or 55 pounds fall count. A swarm that issued June 4, filled two supers of 24 pounds each, by July 15, and closed the season with 87 pounds of comb honey to their credit. My bees doubled in number, as will be shown by my spring and fall count average. They are all wintering nicely on the summer stands. After taking off all surplus arrangements I place back the empty super and raise the cover about 1-12 of an inch, then cover all but the front of the hive with about one foot of straw. Since adopting this plan I have lost but one colony.

I make the hive-stands by setting four short posts 6 feet apart east and west, and 18 inches apart north and south, then I nail two fence-planks, 10 feet long, one to each



A FENCE THAT CAN'T SAG. It is the **KEystone FENCE.** It is constructed with a special view to taking up all slack by expanding and contracting as required by any degree of heat or cold. It is 25 to 35 inches high and will turn anything but wind and water. Book on fence construction sent free.

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The Iowa Policy

Is one that definitely promises to keep an accurate account with you; credit your premiums and interest, charge the actual expense and mortuary cost, and hold the remaining funds subject to your order.

Agents Wanted.

BIG MONEY IN POULTRY

Pet Stock and Incubators if conducted according to "The Chautauqua Guide to Big Profits" just out and sent postpaid with our 1897 Catalogue for 1c to help pay postage, etc. Best eggs and stock cost no more if purchased of us, you can then sell your product to us, and thousands others for high fancy prices. We own 300 acres most elegantly adapted to poultry. CHAUTAUQUA POULTRY & PET STOCK FARM, Box 17 KENNEDY, N.Y.
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It is full of information. Write for it.

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Smokers, Sections,
Comb Foundation,
And All Apiarian Supplies
cheap. Send for
FREE catalogue. E. T. FLANAGAN, Belleville, Ill.
13A13 Please mention the Bee Journal.

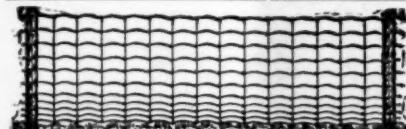
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MAKE IT UNANIMOUS.
Years ago a Michigan Farmer commenced using Page fence, and afterwards took an agency. He now boasts that he has travel over 35 adjoining farms without going off "Page Territory." He hopes to furnish two more, thus "filling gaps" and making 42 consecutive farms using Page. You will find particulars in March "Hustler."

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

row of two posts east and west, nailing the front plank 2 inches lower than the back one, but making it perfectly level east and west. This gives a slant of 2 inches to the entrance of the hive. This stand holds three hives; there being only four posts, makes it an easy matter to fight ants, simply by putting axle-grease around the posts.

Now comes the funny part of my experience: It was with the bee-escape. Following up the directions, I put her, him, or it, on the hive the evening before I wanted to make the raid. I could hardly rest during the night, being so anxious to take off honey without a bee on it! Finally the time came to raise the cover. I must have raised something else, by the way the bees came out. They were madder than ever I saw bees before. (I wouldn't have cared if I had not had three neighbors come over to see how easy it is to work with bees when you are properly fixt!) If I had not been dressed as heavily as I was, I would have been properly "fixt," sure enough (by the bees). The escape now hangs on the wall with a list of other curious things.

FRANK B. ATKINS.

Marion Co., Mo., March 2.

Tennessee Bee-Keeping.

The Smoky Mountain system of bee-keeping is in a hollow log, or a box made of plank from $\frac{3}{4}$ to $\frac{5}{8}$ feet long, and all of the bees kept in this vicinity are blacks. Some of them are crost a little with the Italian bees, and if they can make enough to live on it is all right, and if they don't their keepers think they are not worth anything, and let the bees starve to death. I tell them I am reading the American Bee Journal and the little book, "Bees and Honey," and that I have learned more by reading them than I could have learned in a lifetime of blundering experiments. I tell them they ought to subscribe for the American Bee Journal. Some of them say it is just a money machine, and others say that I have got the bee-fever. Very good; if the money machine continues for a few years, and my fever continues, I will show the boys who is the bee-man.

I have 9 colonies at present. I lost one a few days ago that contained upward of 20 pounds of honey. As soon as I found that they were dead, I drove another swarm into the hive from colony that I had purchased for 50 cents, which contained 5 or 6 pounds of honey. I never heard of bees being driven in February before. I was successful in driving them; they seemed to be at home, and well pleased with their new location.

It was a poor season last year for bees in this locality. I only got 115 pounds from 4 colonies. It was too wet here. I fed my bees 90 pounds of sugar for winter. On page 36 is an article written by Dr. Gallup, that is worth the subscription price of the Bee Journal.

G. W. WILCOX.

Blount Co., Tenn., Feb. 21.

Watering Bees.

Seeing on page 115 something on watering bees, I thought I would tell how I water mine. I take a plank 6 feet long, $1\frac{1}{2}$ inches thick, and 16 inches in width; in this I bore holes with a 2-inch auger a half inch apart, and $\frac{1}{4}$ of an inch deep, with gutters from one hole to the other the same depth. These holes are bored within 18 inches of the one end, leaving room to set a barrel, or half barrel, as described further on. I lay this board on solid foundation made of wood or other material, perfectly level sideways, but lengthwise one inch fall in 6 feet, or just so the water will pass from the supply.

Now I saw a good barrel in two, and set this on the upper part of the board, with a faucet in it near the bottom of the barrel. I then can regulate the water to one drop every four seconds, more or less, as occasion may require. I put in the barrel floats of wood or other material, to keep the bees from drowning. In the spring, when the morning is cold, I fill the holes direct with

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I want the name and address of every Bee-Keeper in America. I supply Dealers as well as consumers. Send for catalogs, quotations, etc. **W. H. PUTNAM,** RIVER FALLS. Pierce Co., Wis.

Mention the American Bee Journal.

Muth's HONEY-EXTRACTOR Square Glass Jars.

Root's Goods at Root's Prices.

BEE-KEEPERS' SUPPLIES in general, etc etc
Send for our new catalog.

"Practical Hints" will be mailed for 10c.
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Chas. F. Muth & Son, Cincinnati, Ohio.

Mention the American Bee Journal.



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Bee-Supplies! Root's Goods at Root's Prices.

Pounder's Honey - Jars, and every thing used by bee-keepers. Prompt service, low freight rate. Cat. tree. Walter S. Powder,
162 Mass. Ave., INDIANAPOLIS, INDIANA.

IF YOU WANT THE

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That covers the whole Apicultural Field more completely than any other published, send \$1.25 to Prof. A. J. Cook, Claremont, Calif., for his

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30 years' experience. If your case is sufficiently serious to require expert medical treatment, address Dr. Peiro, 100 State St., Chicago.

HATCH Chickens BY STEAM—With the MODEL EXCELSIOR Incubator
Simple, Perfect, Self-Regulating. Thousands in successful operation. Lowest priced first-class Hatchery. GEO. H. STAHL,
114 to 122 S. 6th St. Quincy, Ill.

44A26 Mention the American Bee Journal.

Early Italian Queens!

Up till the middle of April at these prices:
Untested, 75c.; Tested, \$1.25.

E. L. CARRINGTON,
5A17 De Panak Springs, Fla.

Mention the American Bee Journal.

Yell, O'Yell, O'YELLOWZONES

Yellowzones for PAIN and FEVER.

boiling water, when I think the bees will fly. By the time the bees come out, it is nearly right, and they will come with a vengeance. But it will not be long till I can fill the barrel.

On the other end of the board I set a 4-quart basin $\frac{1}{2}$ full of water. I then go to the woods for some moss that usually is found at the bottom of trees, and lay this on top of the water in the basin. Then I get a large handful of salt and sprinkle it on the moss, and in due time it is black with bees. If I think it is too strong I add more water.

I fed last summer as high as 28 quarts of water in one day, between 50 and 60 colonies. There is no drowning of bees; if one happens to fall into the water, she has only to kick and she is on "dry ground" again. The cost is \$1.40.

I want to say "thanks" to the editor of the Bee Journal for his many advices in regard to fraudulent concerns. I have in my possession very interesting letters from Horrie and Wheadon, wishing me to sell my honey, but on looking in the American Bee Journal I could not find their names among the advertisers, so I thought I would hold on. Then I beheld the next week that the sentinel sounded the alarm. I wrote to Wheadon declining to sell my honey to him. I may have made more than will pay for the Bee Journal for 20 years.

I am down on the adulteration of honey. Long may the editor live to edit the Bee Journal, if he continues to expose frauds. I believe he will reap his just reward if he faints not.

JACOB MOORE.

Ionia Co., Mich., Feb. 27.

Coming Through in Good Condition.

My bees are coming through in very good condition. I am looking forward to the time when I can work with them.

I do enjoy the American Bee Journal very much. There is a great deal of valuable information in it.

FRANK D. KEYES.

Hampshire Co., Mass., March 21.

Getting Bees into the Sections.

When I have more time, I will tell you my experience with the Hoffman reduced-depth ($7\frac{1}{2}$ -inch) frame. I have 2,000 of them in use up to the present, with more to follow. I confine myself almost exclusively to comb honey production, and use two brood-chambers for breeding purposes up to the time when the honey-flow begins, when I remove the one, replace with a super of sections, and I tell you I have no occasion to waste my time to coax the bees to enter the sections, for they never fail to go. So whenever I read of section-baits, etc., I cannot help but smile.

You are doing good work, Mr. York, and I am pleased to endorse your fearless method in opposition to frauds and charlatans.

CALIFORNIA.

Working on Soft Maple.

Spring is on hand. Bees are working on soft maple, and the fields are taking on their green attire. A. A. BALDWIN.

Jackson Co., Mo., March 19.

Value of Salt in Bee-Keeping.

Having used salt for several years, for many things in caring for the bees and honey, with such good results is my excuse for offering it for publication.

Salt is the best deodorizer for a cellar that I have ever found, as it leaves the cellar sweet and healthy for the bees. After the bees are out, and the dead taken up, and everything not belonging there is taken out, then cover the cellar bottom all over with a coat of salt, a fourth inch deep, or nearly that, and leave it there to dissolve. Two or three applications are sufficient to cleanse the cellar, and make it as fresh and sweet as a cellar that is just built. Where the floor of the cellar is made of wood, the

Page & Lyon Mfg. Co. New London, Wisconsin,

Operates two sawmills that cut, annually, eight million feet of lumber, thus securing the best lumber at the lowest price for the manufacture of

Bee-Keepers' Supplies.

They have also one **One of the Largest Factories** and the latest and most-improved machinery for the manufacture of

Bee-Hives, Sections, Etc.,

that there is in the State. The material is cut from patterns, by machinery, and is absolutely accurate. For Sections, the **clearest and whitest Basswood** is used, and they are polished on both sides. Nearness to Pine and Basswood forests, and possession of mills and factory equiped with best machinery, all combine to enable this firm to furnish the

Best Goods at the Lowest Prices.

Send for Circular and see the Prices on a Full Line of Supplies.
Please mention the American Bee Journal.

7 Atf



BARKLEY
\$10.00 ROAD CAGTS
and upwards,
For Style and Finish they
can not be surpassed.

HARNESS

FROM \$5.00 UPWARDS.

This cut shows our \$5.50 Harness which we make a specialty of and DEFY COMPETITION

We also manufacture a complete line of **GOAT** and **DOG HARNESS** from \$1.50 to \$12.50 per set. **GOAT** or **DOG CARTS** from \$4.00 to \$7.00. Write for GOAT CATALOGUE.

For 22 consecutive YEARS we have manufactured and sold to dealers, BUT NOW we are selling direct to consumers, saving you the traveling man's expenses and dealer's profit. Write for illustrated catalogue and prices.

FRANK B. BARKLEY MFG. CO. GARDEN CITY BLOCK, CHICAGO, ILL.



BARKLEY
\$55.00 BUGGIES
a Specialty. We guarantee satisfaction.

Read our book of voluntary Testimonials from our customers and see what they think of Barkley Goods and Business Methods. It will pay you to do so.

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\$75.00 PHAETON

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BEE-KEEPERS SUPPLIES

We make
The Very Finest Line of
in the Market, and sell
them at Low Prices.

Send for Free Illustrated Catalog and Price-List.
G. B. LEWIS CO., WATERTOWN, WIS.
Special Agent for the Southwest — **E. T. ABBOTT,**
St. Joseph, Mo.

Mr. Abbott sells our Hives and Sections at Factory Prices.



Finest Alfalfa Honey!

IT SELLS ON TASTING.

The Honey that Suits All
Who Buy It.

Low Prices Now!

We can furnish **White Alfalfa** Extracted Honey, in 60-pound tin cans, on board cars in Chicago, at these prices: 1 can, in a case, 7 $\frac{1}{2}$ cents per pound; 2 cans in one case, 7 cents; 4 cans (2 cases) or more, 6 $\frac{1}{2}$ cents. The Cash MUST accompany each order. **Fine Basswood** Flavor Honey at same price; also in 270-lb. barrels.

A sample of either honey will be mailed to an intending purchaser, for 8 cents, to cover postage, packing, etc. We guarantee purity.

GEORGE W. YORK & CO., 118 Michigan Street, CHICAGO, ILL.

Apr. 1,

salt will preserve the wood, and make a lasting job, and also a clean floor.

Again, I use salt to tell me when the atmosphere is too damp in the room for the safety of my crop of honey, from July to October. One or two small dishes of salt—a tea-saucer is all right—are filled about two-thirds full of fine table-salt, and are placed on the pile of honey, and all I have to do is to keep the salt dry, for as long as dry and crumbly, your room is all right. Whenever you find the salt damp, or little drops of brine above the saucer, where little particles of salt have lodged, you may know that a fire is needed at once to dry out the room.

I use salt in front of all my hives to kill out the grass, so that every colony has a clean front yard of their own, with no alighting-board to get out of place, as every hive sets flat on the ground, on a loose bottom-board.

Again, I use salt to scrub my kitchen floor when it gets grindy, as a few quarts of coarse salt scattered over the floor when quite wet, and thoroughly work with a broom, will give the floor a fresh appearance, the same as it does on brass or copper when corroded.

Bees appear to be in fine condition up to date, but have another month to stay in the cellar yet, unless this spring proves an exception.

IRA BARBER.

St. Lawrence Co., N. Y., March 11.



When you buy a Thresher be sure to get the one that will thresh cleanest, fastest, simplest, best built, will last the longest, and needs the least repair. The Rumely Operator, with Uncle Tom's Windmill and New Rumely Engine, satisfies all users and has all of these points and more that are explained in new Catalogue. Send for the asking.

M. RUMELY CO., LA PORTE, IND.

Mention the American Bee Journal.

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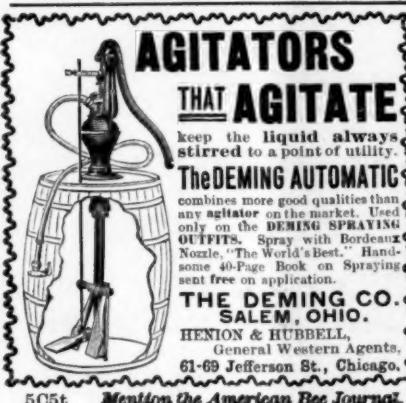
5 per cent. Off

On all Kinds of Supplies

During March.

Orders amounting to \$5 or more will be delivered f. o. b. cars Springfield, Ills.

W. J. FINCH, JR., CHESTERFIELD, ILLS.
10A13t Mention the Am. Bee Journal.



5C5t Mention the American Bee Journal.

"Queens Given Away."

Gray Carniolans and Golden Italians.

We will give a fine Tested Queen (either race) to all customers ordering 6 Untested Queens, and a fine Select Tested Queen to all who order 12 Untested Queens at one time. The Queens given away will be sent to customers in August.

Grade and Prices April July

of Bees and Queens	May	Aug.
	June	Sept.

Untested Queen	\$.75	\$.65
Tested	1.50	1.25
Select Tested Queen	2.50	2.25
Best Imported	5.00	4.00
One Frame Nucleus (no Queen)75	.50
Two	1.50	1.00
Full Colony of Bees (in new dovetailed hive)	5.00	4.00

We guarantee our Bees to be free from all diseases, and to give entire satisfaction.

Descriptive Price-List Free.

F. A. Lockhart & Co., LAKE GEORGE,
N. Y.
13Dtf Please mention the Bee Journal.



ONE MAN WITH THE UNION COMBINATION SAW

Can do the work of four men using hand tools, in Ripping, Cutting-off, Mitring, Rabbing, Grooving, Gaining, Dadoing, Edging-up, Jointing Stuff, etc. Full Line of Foot and Hand Power Machinery, held on Trial. Catalogue Free.

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46 Water St SENECA FALLS, N. Y.
1A1y Mention the American Bee Journal.

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PENN AVE. AND EIGHTH ST.
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Thorough Courses—Normal, Commercial, Ladies Literary, Shorthand and Typewriting. Efficient and experienced Instructors. Day and Night sessions. Send for Catalog.

Prof. LEWIS EDWIN YORK, Pres.

JUST ARRIVED!

My first carload of Goods from The A. I. Root Co. has arrived, and I am in shape to fill all orders promptly at their catalog prices. Send for my 38 page catalog; also list of Goods you will need, and I will make you special prices on early orders.

GEO. E. HILTON,
9D9t FREMONT, MICH.

Beeswax Wanted for Cash

Or in Exchange for

Foundation—Sections—Hives
or any Other Supplies.

Working Wax into Foundation for CASH A Specialty.

Write for Catalog and Price-List, with Samples of Foundation and Sections.

GUS DITTMER,
AUGUSTA, WIS.

Mention the American Bee Journal.

ROOT'S GET DISCOUNTS ON EARLY ORDERS FOR 1897. A. I. Root Co.'s Bee-Supplies always on hand. Better prepared than ever to fill orders promptly. 36-page Catalog free.

JOHN NEBEL & SON, HIGH HILL, MO.
Mention the American Bee Journal. 4A1f

SAUMENIG! HATCHERS are made on best lines and of best material known to incubator art. They cannot fail. HEATS WITH HOT WATER! Hatches every egg that can be hatched. Send 2 stamps for catalog No. 59 INVINCIBLE HATCHER COMPANY, SPRINGFIELD, OHIO.

13D5t Please mention the Bee Journal.

Convention Notices.

Texas.—The next annual meeting of the Texas State Bee-Keepers' Association will be held at Greenville, Wednesday and Thursday, April 7 and 8, 1897. All are cordially invited to attend.

Utah.—The Utah State Bee-Keepers' Association will hold its semi-annual meeting in the City and County Building, Salt Lake City, April 5, 1897, at 10 a.m. All are invited to come and bring your friends. A full program in the interest of the industry will be presented, among other subjects to be considered being the best method of marketing our products, and how to best protect the bees from foul brood and other diseases. In union is strength, and by industry we thrive. The Association needs your aid; then let all do their full duty, for their own interest and for mutual benefit and self-preservation.

Salt Lake City, Utah. E. S. LOVESY, Pres.

Mr. C. N. Bowers, Box 73, Dakota, Ill., is now mailing his Poultry Annual and Book of Valuable Recipes for 1897, finely printed in colors, giving cuts, descriptions, and prices of 45 of the leading varieties of fancy fowls, with important hints on the care of poultry, and hundreds of recipes of great value. Over 1,000 premiums won at the leading shows. Prices reduced one-fourth. One of the finest books out. Price only 10 cents, postpaid. He will return money if not satisfactory. Do not fail to get it, as the book contains \$10 worth of information. Please mention the American Bee Journal when writing.

A Carload of Utah Honey is in the hands of Pres. E. S. Lovesy, 355 6th East St., Salt Lake City, Utah. It is No. 1 honey, and the whole will be shipped from there at 5½ cents a pound for the extracted, and 9 cents for the comb honey. Any one interested can write Mr. Lovesy.

Barnes' Foot-Power Machinery.

Read what J. L. PARENT, of CHARLTON, N. Y., says—"We cut with one of your Combined Machines, in winter 50 chaff hives with 7-in. cap, 100 honey-racks, 500 broad frames, 2,000 honey-boxes and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make and we expect to do it with this Saw. It will do all you say it will. Catalogue and Price-List Free. Address, W. F. & JOHN BARNES, 45Ct, No. 905 Ruby St., Rockford, Ill.

* TO BE HUNG ! *

OUR SHINGLE is now hung out, notifying the public that we are again ready to ship Queens. Having greatly enlarged our facilities, can fill orders by return mail.

Golden Beauties, 3 Band Italians
Also Silver-Gray Carniolan.

Warranted Queen, 50c.; Tested, 75c. Make Money Orders payable at Caldwell, Tex. Send for Catalog of Bee-Keepers' Supplies.

Address, C. B. BANKSTON,
11A1f CHRIESEN, Burleson Co., TEX.

The RURAL CALIFORNIAN

Tells all about Bees in California. The Yields and Price of Honey; the Pasturage and Nectar - Producing Plants; the Bee-Ranches and how they are conducted. In fact the entire field is fully covered by an expert bee-man. Besides this, the paper also tells you all about California Agriculture and Horticulture. \$1.50 per Year; Six Months, 75 cents. Sample Copies 10 cents.

THE RURAL CALIFORNIAN,
218 N. Main St., LOS ANGELES, CALIF.

BEE-KEEPERS! Let me send you my 64-page Catalog for 1897.
J. M. Jenkins, Wetumpka, Ala.

Mention the American Bee Journal.

FOR SALE At Beeville, Tex.—200 Colonies of first-class Italian Bees. \$600 cash, to close out. Address,
10A4 S. A. LEEDS, Avery Island, La.

HONEY and BEESWAX MARKET QUOTATIONS.

The following rules for grading honey were adopted by the North American Bee-Keepers' Association, and, so far as possible, quotations are made according to these rules:

FANCY.—All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsmeared by travel-stain, or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsmeared by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1 dark," etc.

Chicago, Ill., Mar. 19.—Fancy white, 11@12c.; No. 1, 10@11c.; fancy amber, 9c.; No. 1, 7c.; fancy dark, 8c.; No. 1, 7c. Extracted, white, 5@7c.; amber, 5@6c.; dark, 4@5c. Beeswax, 23@27c.

Stocks are working down, but there is no improvement in price. The season for comb honey is drawing to a close. Any one intending to market in the cities should do so now.

Albany, N. Y., Mar. 20.—Fancy white, 12-13c.; No. 1, 11-12c.; fancy amber, 9-10c.; No. 1, 8-9c.; fancy dark, 7-8c.; No. 1, 6-7c. Extracted, white, 5-6c.; dark, 3@4c.

Demand is all that could be expected at this season. Stock on hand small.

Indianapolis, Ind., Feb. 20.—Fancy white, 14@15c.; No. 1 white, 12@13c. Extracted, white, 6-7c. Beeswax, 23-25c.

Demand is fair for grades quoted, but no demand for inferior grades.

Boston, Mass., Feb. 20.—Fancy white, 13-14c.; No. 1, 11-12c. Extracted, white, 6-7c.; amber, 5-6c. Beeswax, 25c.

Cleveland, Ohio, Feb. 20.—Fancy white, 14@15c.; No. 1 white, 12@13c. Extracted, white, 6@7c.; amber, 4@5@5@5c. Beeswax, 22@25c.

There is not very much honey in our market. Selling rather slow. Demand beginning to be a little better. Think trade will be fair in this line this fall.

St. Louis, Mo., Feb. 19.—Fancy comb. 12@13c.; No. 1 white, 11@11@11c.; amber, 9@10c.; dark, 7@8@9c. Extracted, white, in cans, 6@7c.; amber, in barrels, 4@4@4c; extra, 5c.; dark, 3@4c. Good demand for barrel stock—comb slow sale. Beeswax, 23@23@25c.—prime finds ready sale at 23@25c.

San Francisco, Calif., Mar. 17.—White comb, 9-10c.; amber, 5-7c. Extracted, white, 5-5@6c.; light amber, 3@4c.; dark tulle, 2@3c. Beeswax, fair to choice, 24-26c.

Philadelphia, Pa., Feb. 2.—Fancy white comb, 12-13c.; fancy amber, 8-9c.; No. 1, 8c.; fancy dark, 7-8c. Extracted, white, 5-7c.; amber, 4-5c.; dark, 3@4c. Beeswax, 25c.

Season is getting over for comb honey—very little demand. Extracted in good demand.

New York, N. Y., Feb. 20.—There has been a little better demand for comb honey during the last two weeks. Prices, however, will not improve, as the season is too far advanced and plenty of stock laying on the market. We have a good demand for extracted buckwheat, candied, and bee-keepers having their crop on hand yet, should now market it.

Beeswax is quiet at 26-28c., according to quality.

Cincinnati, Ohio, Mar. 22.—Demand is slow for all kinds of honey, with a fair supply. Comb honey, 10@13c. for best grades; extracted, 3@4c. There is a fair home demand for beeswax, with a fair supply, at 22@25c. for good to choice yellow.

Kansas City, Mo., Mar. 22.—No. 1 white, 12@13c.; fancy amber, 11@12c.; No. 1 amber, 10@11c.; fancy dark, 9@10c.; No. 1 dark, 8@9c.; Extracted, white, 5@5@5c.; amber, 4@5c.; dark, 4c. Beeswax, 22@25c.

Detroit, Mich., Mar. 12.—No. 1 and fancy white comb, 11@12c.; other brands, 7-10c. Extracted, white, 5-6c.; amber and dark, 4-5c. Beeswax, 24-25c.

Minneapolis, Minn., Feb. 20.—Fancy white, 11@12c.; No. 1 white, 10@11c.; fancy amber, 9@10c.; No. 1 amber, 8@9c.; fancy dark, 7@8c.; No. 1 dark, 6-7c. Extracted, white, 6@7c.; amber, 5@5@5c.; dark, 4@5c. Utah white extracted, 5@5@5c. Beeswax, 23@26c. Market fairly steady for comb and better for extracted than for some time.

Buffalo, N. Y., Mar. 19.—Demand is somewhat better for honey, although we advise marketing everything and cleaning it up. Strictly fancy comb, 1-pound, 10-11c.; other grades 9-5c. as to quality, condition, etc. Extracted, 4-5@5c., as to kind and quality.

List of Honey and Beeswax Dealers.

Most of whom quote in this Journal.

Chicago, Ills.

R. A. BURNETT & Co., 163 South Water Street.

New York, N. Y.

HILDRETH BROS. & SIEGLER,

Kansas City, Mo.

C. C. CLEMOMS & Co., 423 Walnut St.

Buffalo, N. Y.

BATTERSON & Co., 167 & 169 Scott St.

Hamilton, Ills.

CHAS. DADANT & SON.

Philadelphia, Pa.

WM. A. SELSER, 10 Vine St.

Cleveland, Ohio.

WILLIAMS BROS., 80 & 82 Broadway.

St. Louis, Mo.

WESTCOTT CO. Co., 213 Market St

Minneapolis, Minn.

S. H. HALL & Co.

Milwaukee, Wis.

A. V. BISHOP & Co.

Boston, Mass.

E. E. BLAKE & Co., 57 Chatham Street.

Detroit, Mich.

M. H. HUNT, Bell Branch, Wayne Co., Mich.

Indianapolis, Ind.

WALTER S. PODER, 162 Massachusetts Ave.

Albany, N. Y.

CHAS. McCULLOCH & Co., 380 Broadway.

Cincinnati, Ohio.

C. F. MUTH & Son, cor. Freeman & Central avs.

Honey - Clovers!

We have made arrangements so that we can furnish seed of several of the Clovers by freight or express, at the following prices, cash with order:

	5lb	10lb	25lb	50lb
Aisake Clover.....	\$.70	\$1.25	\$3.00	\$ 5.75
Sweet Clover (white).....	.60	1.00	2.25	4.00
White Clover.....	.90	1.60	3.75	7.00
Alfalfa Clover.....	.60	1.00	2.25	4.00
Crimson Clover.....	.55	.90	2.00	3.50

Prices subject to market changes.

Add 25 cents to your order, for cartage, if wanted by freight.

Your orders are solicited.

GEORGE W. YORK & CO.,
CHICAGO, ILLS.

One Cent

Invested in a postal card will get my large Catalog of All Root's Goods. Send list of what you want, and get price.

M. H. HUNT, Bell Branch, Mich.

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PATENT WIRED COMB FOUNDATION

Has No Sag in Brood-Frames

Thin Flat-Bottom Foundation

Has No Fishbone in the Surplus Honey.

Being the cleanest is usually worked the quickest of any Foundation made.

J. VAN DEUSEN & SONS,
Sole Manufacturers,

Sprout Brook Montgomery Co., N. Y.

Mention the American Bee Journal.



Read - TESTIMONIALS - Read

E. T. FLANAGAN, Belleville, Illinois—

Dear Sir—The Queen I received from you last year beats any Queen I ever saw. If I ever need more Queens I now know where to get them. Yours truly, M. SMISCHNY,

Dealer in Bees and Honey.

Brentwood, Ark., May 2, 1896.

E. T. FLANAGAN, Belleville, Illinois—

Dear Sir—The 4 3-frame Nuclei and 1 full Colony I bought of you last May, all arrived in excellent order and have done exceedingly well, considering they had a journey of over 2,000 miles to reach my place in Idaho. Three of the Nuclei gave a large natural swarm each, and, in addition, stored over 100 pounds of surplus comb honey each. The other one did nearly as well. The full Colony swarmed also, and stored over 200 pounds of splendid comb honey in one-pound section-boxes. I now have 9 good, strong colonies with plenty of honey to winter on, and have taken from them over 500 pounds of choice comb honey. I am well pleased with my venture.

Yours truly,

B. F. WHITE.

Baraboo, Wis., June 3, 1896.

E. T. FLANAGAN, Belleville, Illinois—

Dear Sir—One of the 3-frame Nuclei I got of you on May 8, 1896, I have had 5 good swarms, one of which got away to the woods. I reared 13 splendid queens, and got 69 pounds of No. 1 comb honey from it; besides plenty of honey to winter on. Can that be beat? I shall want about 35 Nuclei for myself and about 25 for other parties in the spring. Yours truly,

H. W. SAVAGE.

Baraboo, Wis., Jan. 10, 1897.

E. T. FLANAGAN, Belleville, Illinois—

Dear Sir—The bees and queens I got of you last season were very good, and pleased me very much. They are beauties, and splendid workers.

Yours truly,

E. C. HASKETT.

Palestine, Ill., Jan. 10, 1897.

E. T. FLANAGAN, Belleville, Illinois—

Dear Sir—I have bought Bees and Queens for the past 24 years from all parts of the United States, and I never received any that gave me greater satisfaction than the Nuclei and Queens I received from you. They are gentle and great hustlers, and as long as I am in the bee-business I will give you all my orders for Bees and Queens. You can book my order now for 4 Nuclei to be delivered the coming spring.

Yours truly,

J. W. YOUNG.

Mr. Young has bought Bees and Queens from me for a number of years.

The above are only a few samples of reports from Bees and Queens I have sold. I have been nearly 20 years in the business, and it is a real pleasure to please and satisfy my customers.

See small adv., and cut this out as it will not appear again. Send for Catalog to

E. T. FLANAGAN,

Box 783

BELLEVILLE, ILL.

Mention the American Bee Journal.

I Would Like to See a Hive

That bees will build up in faster in the spring, or that is better adapted for Comb or Extracted Honey, or that is easier manipulated than mine. It is Cubical and Self-Spacing. Patented April 7, 1896. Hives and Rights for sale. Address,

CYRUS C. ALDRICH,

13A4t ELSINORE, Riverside Co., CALIF.

Mention the American Bee Journal.

For Sale Cheap During 1897.

Italian Bees and Queens, and Root's Bee-Keepers' Supplies. Address,

OTTO KLEINOW,

12A2t 122 Military Ave., DETROIT, MICH.

Mention the American Bee Journal.

Friends in Want of

Bee-Keepers' Supplies or the Best Hive

Call and see me when in BOSTON.

13A2t S. A. FISHER, 82 Water St.

WHEN ANSWERING THIS ADVERTISEMENT, MENTION THIS JOURNAL.

FREE —A Copy of—
Successful Bee-Keeping,
by W. Z. Hutchinson;
and our 1897 Catalog, for 2-
cent stamp, or copy of the
Catalog for the Asking. We make almost
Everything used by Bee-Keepers, and at
Lowest Prices. OUR

Falcon Polist Sections
are warranted
Superior to All Others.

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when you can have the best—such as we
make.

The American Bee - Keeper
[monthly, now in its 7th year]

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JAMESTOWN, N. Y.



DANZENBAKER
HIVE AND HONEY

won Highest Honors at the
Fairs, and pays Premiums
to purchasers

of 50 hives, \$50 for the best 100 Danz. sections
" 25 " 25 " 50 "
" 20 " 20 " 40 "
" 10 " 10 " 20 "
" 5 " 5 " 10 "

Further particulars regarding the premiums, also special catalog of the Danzenbaker Hive and System, furnish on application. Address,

Francis Danzenbaker, Medina, Ohio.
Care The A. I. Root Company.

I ARISE



TO SAY to the readers
of the
BEE JOURNAL that
DOOLITTLE

has concluded to sell
—BEEs and QUEENS—
in their season, during
1897, at the following
prices:

One Colony of Italians
on 9 Gallup frames, in
light shipping-box \$6.00
Five Colonies.... 25.00
Ten Colonies.... 45.00
1 uncontested queen. 1.00
6 " queens 5.50
12 " 10.00
1 tested Queen... \$1.50
5 " Queens. 3.50
1 select tested Queen 2.00
3 " Queens 4.00

Select tested queen, previous season's rearing. 4.00
Extra Selected for breeding, THE VERY BEST. 5.00
About a Pound of BEES in a Two-frame Nucleus,
with any Queen, \$2.00 extra.

Circular free, giving full particulars regarding
the Bees and each class of Queens.
Address

G. M. DOOLITTLE,
11A25t BORODINO, Onon. Co., N. Y.

BEST ON EARTH!!

18 years the Standard. The 4-inch "Smoke Engine." Is it too large? Will it last too long? Will save you lots of money and bad words. Send for Circular. 6 sizes and prices of Bingham Smokers and Knives.

T. F. BINGHAM, Farwell, Mich.
5Atf Mention the American Bee Journal.



BIG MONEY IN POULTRY

OUR LARGE GUIDE for '97 just
out. Something entirely new. 100
pages. Printed in finest colored work.
Contains everything pertaining to Poul-
try in full. PRICES REDUCED on
1st Prize Winners and Eggs. Postpaid
on receipt of 15 cents, if you write now.
JOHN BAUSCHER, Jr., Box 94 Freeport, Ill.
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20th Year Dadant's Foundation 20th Year

Why Does It Sell So Well?

Because it has always given better satisfaction than any other.

Because IN 20 YEARS there have not been any complaints, but thousands of compliments.

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